

DEPARTMENT OF COMMERCE
BUREAU OF THE CENSUS
SAM. L. ROGERS, DIRECTOR

CENSUS OF MANUFACTURES: 1914

TEXTILES

INCLUDING

COTTON MANUFACTURES, WOOL MANUFACTURES, HOSIERY
AND KNIT GOODS, SILK MANUFACTURES,
AND MISCELLANEOUS TEXTILES

Prepared under the supervision of W. M. STEUART, Chief Statistician for Manufactures



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TEXTILES.

By CLYTUS A. FREEMAN.

GENERAL STATISTICS.

Scope of the report.—Statistics are here presented for the following branches of the textile industry:

Cotton manufactures—
 Cotton goods.
 Cotton lace.
 Cotton small wares.
 Wool manufactures—
 Woolen goods.
 Worsted goods.
 Felt goods.
 Wool-felt hats.
 Carpets and rugs, other than rag.
 Hosiery and knit goods.
 Silk manufactures.
 Cordage and twine and jute and linen goods.

Statistics in detail for each of these groups and also for other industries more or less closely associated with the manufacture of textile fabrics are presented. Of the allied industries, wool shoddy, wool pulling, wool scouring, and the dressing of flax and hemp represent the preparation of the partially manufactured material used in the industries and the dyeing and finishing of yarn and fabrics represent intermediate

or finishing processes. Data for the manufacture of fur-felt hats are also presented in order to make comparison with the wool-felt hat industry. The report also covers the manufacture of haircloth and mats and matting.

There is considerable duplication in the cost of materials and value of products for some of the individual industries, and still more in the totals for the industries combined, by reason of the use of the products of one establishment or one industry as materials for other establishments or other industries. For example, some of the establishments classed under "cotton goods" make cotton yarn that is sold not only to other cotton mills but to establishments in other textile industries. The extent of this practice in the combined textile industries is shown by Table 9, which gives the statistics for yarns purchased.

Table 1 presents for 1914 a summary for textile manufactures as a whole and for each of the branches, together with the per cent which each branch formed of the total.

Table 1

TEXTILE INDUSTRIES: 1914.

	Total.	Cotton manufactures.		Wool manufactures.		Hosiery and knit goods.		Silk manufactures.		Cordage and twine and jute and linen goods.	
		Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.	Number or amount.	Per cent of total.
Number of establishments.....	4,991	1,328	26.6	979	19.6	1,622	32.5	902	18.1	160	3.2
Persons engaged in the industry.....	911,780	403,911	44.3	203,716	22.3	159,673	17.5	115,571	12.7	28,909	3.2
Proprietors and firm members.....	3,013	489	16.2	578	19.2	1,298	43.1	591	19.6	57	1.9
Salaried employees.....	34,065	10,018	29.4	7,853	23.1	7,855	23.1	6,810	20.0	1,529	4.5
Wage earners (average number)....	874,702	393,404	45.0	195,285	22.3	150,520	17.2	108,170	12.4	27,323	3.1
Primary horsepower.....	2,364,986	1,585,953	67.1	442,330	18.7	125,842	5.3	116,924	4.9	93,937	4.0
Capital.....	\$1,921,923,038	\$899,764,682	46.8	\$497,699,293	25.9	\$215,826,340	11.2	\$210,071,679	10.9	\$98,561,044	5.1
Salaries and wages.....	420,373,797	169,822,599	40.4	108,009,668	25.7	71,039,186	16.9	57,615,374	13.7	13,886,970	3.3
Salaries.....	56,284,975	17,400,000	30.9	14,651,788	26.0	11,281,035	20.0	10,506,905	18.7	2,445,247	4.3
Wages.....	364,088,822	152,422,599	41.9	93,357,880	25.6	59,758,151	16.4	47,108,469	12.9	11,441,723	3.1
Paid for contract work.....	21,883,163	1,614,636	7.4	2,456,260	11.2	3,239,695	14.8	14,550,762	66.5	21,810	0.1
Rent and taxes (including internal revenue).....	17,421,937	8,409,837	48.3	3,922,866	22.5	2,355,597	13.5	2,031,897	11.7	701,740	4.0
Cost of materials.....	1,093,190,209	443,522,515	40.6	298,063,498	27.3	146,687,458	13.4	144,442,321	13.2	60,474,417	5.5
Value of products.....	1,761,709,974	701,300,933	39.8	464,249,813	26.4	258,912,903	14.7	254,011,257	14.4	83,235,068	4.7
Value added by manufacture (value of products less cost of materials)....	668,519,765	257,778,418	38.6	166,186,315	24.9	112,225,445	16.8	109,568,936	16.4	22,760,651	3.4

This table clearly indicates the importance of cotton manufactures. Although cotton mills represent only 26.6 per cent of the 4,991 establishments, they employed 45 per cent of the total number of wage earners and produced 39.8 per cent of the total value of products. Cotton is also the most important material used in the manufacture of hosiery and knit goods. These two industries contributed 54.5 per cent of the total value of products and employed

62.2 per cent of the total number of wage earners for the textile industries. Of the other industries, wool manufactures constituted 26.4 per cent, silk manufactures 14.4 per cent, and cordage and twine and jute and linen goods 4.7 per cent of the total value of products.

Comparison with earlier censuses.—Table 2 summarizes the statistics for the combined textile industries for each census from 1889 to 1914, inclusive, and gives percentages of increase.

Table 2

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹				
	1914	1909	1904	1899	1889	1904-1914	1909-1914	1904-1909	1899-1904	1889-1899
Number of establishments.....	4,991	4,825	4,268	4,099	4,056	16.9	3.4	13.1	4.1	1.1
Persons engaged in the industry.....	911,780	865,214	729,182	(2)	(2)	25.0	5.4	18.7	(2)	(2)
Proprietors and firm members.....	3,013	3,113	3,185	(2)	(2)	-5.4	-3.2	-2.3	(2)	(2)
Salaried employees.....	34,065	28,014	21,946	15,526	(2)	55.2	21.6	27.6	41.3	(2)
Wage earners (average number).....	874,702	834,087	704,051	631,979	497,822	24.2	4.9	18.5	11.4	26.9
Primary horsepower.....	2,364,986	1,976,026	1,526,031	1,229,875	767,369	55.0	19.7	29.5	24.1	60.3
Capital.....	\$1,921,923,038	\$1,717,794,601	\$1,254,895,570	\$982,559,386	\$729,332,978	53.2	11.9	36.9	27.7	34.7
Salaries and wages.....	420,373,797	356,697,598	263,074,044	217,407,397	171,373,880	59.8	17.9	35.6	21.0	26.9
Salaries.....	56,284,975	43,722,234	29,107,389	21,035,396	(2)	93.4	28.7	50.2	38.4	(2)
Wages.....	364,088,822	312,975,364	233,966,655	196,372,001	(2)	55.6	16.3	33.8	19.1	(2)
Paid for contract work.....	21,883,163	19,966,523	9,649,279	11,189,860	(2)	126.8	9.6	106.9	-13.8	(2)
Rent and taxes (including internal revenue).....	17,421,937	12,613,985	9,695,917	8,219,905	(2)	79.7	38.1	30.1	18.0	(2)
Cost of materials.....	1,093,190,209	950,995,374	726,357,481	503,510,534	435,249,600	50.5	15.0	30.9	44.3	15.7
Value of products.....	1,761,709,974	1,591,735,706	1,164,705,562	886,882,361	730,567,498	51.3	10.7	36.7	31.3	21.4
Value added by manufacture (value of products less cost of materials).....	668,519,765	640,740,332	438,348,081	383,371,827	295,317,898	52.5	4.3	46.2	14.3	29.8

¹ A minus sign (-) denotes decrease.² Comparable figures not available.³ Exclusive of internal revenue.

The manufacture of textiles has made a constant growth in the past twenty-five years and Table 2 shows substantial increases at each successive census in the most important items. The decrease in number of proprietors and firm members is accounted for by the change of some establishments from noncorporate to corporate ownership.

Comparative summary, by industries.—Comparative statistics for each census year, beginning with 1879, for each group of textile industries covered by this report and for the five groups combined are presented in Table 3.

Table 3

INDUSTRY AND YEAR.	Number of establishments.	Salaried employees.	Wage earners (average number).	Primary horsepower.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
Total, 1914.....	4,991	34,065	874,702	2,364,986	\$1,921,923,038	\$56,284,975	\$364,088,822	\$1,093,190,209	\$1,761,709,974	\$668,519,765
Cotton manufactures.....	1,328	10,018	393,404	1,585,953	899,764,682	17,400,000	152,422,599	443,522,515	701,300,933	257,778,418
Wool manufactures.....	979	7,833	195,285	442,330	497,699,293	14,651,788	93,357,880	298,063,498	464,249,813	166,186,315
Hosiery and knit goods.....	1,622	7,855	150,520	125,842	215,826,340	11,281,035	59,758,151	146,687,458	258,912,908	112,225,445
Silk manufactures.....	902	6,810	108,170	116,924	210,071,679	10,506,905	47,108,469	144,442,321	254,011,257	109,568,936
Cordage and twine and jute and linen goods.....	160	1,529	27,323	93,937	98,561,044	2,445,247	11,441,723	60,474,417	83,235,068	22,760,651
Total, 1909.....	4,825	28,014	834,087	1,976,026	1,717,794,601	43,722,234	312,975,364	950,995,374	1,591,735,706	640,740,332
Cotton manufactures.....	1,324	8,514	378,880	1,296,517	822,237,529	14,411,758	132,859,145	371,099,470	628,391,813	257,382,343
Wool manufactures.....	1,124	6,987	202,029	400,762	506,205,584	12,306,199	87,962,669	322,441,043	507,166,710	184,725,667
Hosiery and knit goods.....	1,374	5,721	129,275	108,709	163,641,171	7,691,457	44,740,223	110,241,053	200,143,527	89,902,474
Silk manufactures.....	852	5,337	99,037	97,947	152,158,002	7,527,279	38,570,085	107,766,916	196,911,667	89,144,751
Cordage and twine and jute and linen goods.....	151	1,255	24,866	77,091	73,552,315	1,785,541	8,843,242	39,536,892	59,121,989	19,585,097
Total, 1904.....	4,268	21,946	704,051	1,526,031	1,254,895,570	29,107,389	233,966,655	726,357,481	1,164,705,562	438,348,081
Cotton manufactures.....	1,154	6,981	315,874	986,604	613,110,655	10,237,891	96,205,796	286,255,303	450,467,704	164,212,401
Wool manufactures.....	1,213	5,616	179,976	322,914	370,861,691	8,177,345	70,797,524	242,561,096	380,934,003	138,372,907
Hosiery and knit goods.....	1,144	4,330	104,092	78,769	106,943,072	4,455,151	31,614,607	76,789,348	137,076,454	60,287,106
Silk manufactures.....	624	4,027	79,601	71,760	109,556,621	4,742,270	26,767,943	75,861,188	133,288,072	57,426,884
Cordage and twine and jute and linen goods.....	133	992	24,508	65,984	54,423,531	1,494,732	8,580,785	44,890,546	62,939,329	18,048,783
Total, 1899.....	4,099	15,526	631,979	1,229,875	982,559,386	21,035,396	196,372,001	503,510,534	886,882,361	383,371,827
Cotton manufactures.....	1,055	4,902	302,861	795,834	467,240,157	7,350,199	86,689,752	176,551,527	339,200,320	162,648,793
Wool manufactures.....	1,414	4,495	159,108	271,565	310,179,749	6,455,495	57,933,817	181,159,127	296,990,484	115,831,357
Hosiery and knit goods.....	1,006	2,831	83,691	57,346	82,065,517	3,138,160	24,434,497	51,195,330	95,833,692	44,638,362
Silk manufactures.....	483	2,657	65,416	57,397	81,082,201	3,134,352	20,982,194	62,406,665	107,256,258	44,849,593
Cordage and twine and jute and linen goods.....	141	641	20,903	47,733	41,991,762	957,190	6,331,741	32,197,885	47,601,607	15,408,722
Total, 1889.....	4,056	(1)	497,822	767,369	729,332,978	171,373,880	435,249,600	730,567,498	295,317,898	
Cotton manufactures.....	905	.....	218,876	464,881	354,020,843	69,489,272	154,912,979	267,981,724	113,068,745	
Wool manufactures.....	1,693	.....	154,271	210,642	245,886,743	58,397,470	167,233,987	270,527,511	103,293,524	
Hosiery and knit goods.....	824	.....	59,774	34,564	50,686,206	18,325,261	35,949,865	67,446,788	31,496,923	
Silk manufactures.....	472	.....	49,382	29,638	51,007,537	19,680,318	51,004,425	87,298,454	36,294,029	
Cordage and twine and jute and linen goods.....	162	.....	15,519	27,644	27,731,649	5,481,559	26,148,344	37,313,021	11,164,677	
Total, 1879.....	4,290	(1)	387,554	2 435,933	406,336,938	104,372,632	311,753,059	534,674,299	222,921,240	
Cotton manufactures.....	756	.....	172,544	275,504	208,280,346	42,040,510	102,206,347	192,090,110	89,883,763	
Wool manufactures.....	2,330	.....	132,672	140,058	143,512,278	40,687,612	149,160,600	238,085,686	88,925,086	
Hosiery and knit goods.....	398	.....	30,699	11,561	15,732,291	6,839,195	15,449,991	29,613,581	14,163,590	
Silk manufactures.....	382	.....	31,337	8,810	19,125,300	9,146,705	22,467,701	41,033,045	18,565,344	
Cordage and twine and jute and linen goods.....	175	.....	7,374	(1)	8,462,275	2,084,701	10,909,230	14,991,604	4,082,374	
Special mills ³	249	.....	12,928	(1)	11,224,448	3,573,909	11,559,190	18,860,273	7,301,033	

¹ Figures not available.² Not strictly comparable.³ Includes mills working raw cotton, waste, or cotton yarns into hosiery, webbing, tapes, fancy fabrics or mixed goods, or other fabrics which were not sold as specific manufactures of either cotton or wool.

During the period of 35 years covered by the table the combined value of products of the establishments in the five groups of textile industries increased from \$534,674,299 in 1879 to \$1,761,709,974 in 1914, or 229.5 per cent. During the same period the number of wage earners employed increased by 487,148, or 125.7 per cent.

For the last five-year period, 1909-1914, the textile industries combined show an increase in each of the items for which figures are given. This condition prevails in all of the textile industries, except wool manufactures. The cost of materials, value of products, and value added by manufacture decreased for the wool industry, while the amount expended in salaries and wages increased.

Persons engaged in the manufacture of textile fabrics.—Table 4 shows, for 1914 and 1909, the number of persons engaged in the five groups of textile industries, distributed according to occupational status and sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners is an estimate obtained by the method described in the "Explanation of terms."

CLASS.	Cen- sus year.	PERSONS ENGAGED IN TEXTILE MANUFACTURES.					
		Total.	Male.	Fe- male.	Per cent of total.		
					Male.	Fe- male.	
All classes.....	1914	911,780	472,731	439,049	51.8	48.2	
	1909	865,214	441,788	423,426	51.1	48.9	
Proprietors and officials.....	1914	15,048	14,654	394	97.4	2.6	
	1909	14,087	13,682	405	97.1	2.9	
Proprietors and firm members...	1914	3,013	2,881	132	95.6	4.4	
	1909	3,113	2,959	154	95.1	4.9	
Salaried officers of corporations..	1914	4,639	4,564	75	98.4	1.6	
	1909	4,047	3,992	55	98.6	1.4	
Superintendents and managers..	1914	7,396	7,209	187	97.5	2.5	
	1909	6,927	6,731	196	97.2	2.8	
Clerks and other subordinate sal- aried employees.	1914	22,030	15,572	6,458	70.7	29.3	
	1909	17,040	12,818	4,222	75.2	24.8	
Wage earners (average number)...	1914	874,702	442,505	432,197	50.6	49.4	
	1909	834,087	415,288	418,799	49.8	50.2	
16 years of age and over.....	1914	816,858	415,143	401,715	50.8	49.2	
	1909	763,871	383,371	380,500	50.2	49.8	
Under 16 years of age.....	1914	57,844	27,362	30,482	47.3	52.7	
	1909	70,216	31,917	38,299	45.5	54.5	

Textile industries are characterized by the large number of women employed. In 1914 almost three-tenths of the clerks and other subordinate salaried employees and almost one-half of the wage earners were females. The number of women employed as clerks increased from 4,222 in 1909 to 6,458 in 1914, and their proportion of the total of this class of employees also increased during the five-year period. The women employed as wage earners, on the other hand, although increasing in number from 1909 to 1914, represented a smaller percentage of the total in

the later year than in the earlier. There was an actual as well as a proportional decrease in the number of children employed as wage earners.

Prevailing hours of labor.—Table 5 presents, for 1914 and 1909, for the combined textile industries and for each of the five groups, classification of the average number of wage earners according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or a smaller number of hours.

INDUSTRY.	Cen- sus year.	AVERAGE NUMBER OF WAGE EARNERS.							
		Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.	72.
Combined tex- tiles.	1914	874,702	7,764	20,813	432,039	221,894	189,623	2,529	40
	1909	834,087	2,008	9,927	18,331	487,109	245,139	71,356	217
Cotton manufac- tures.	1914	393,404	1,145	3,149	158,287	72,025	157,112	1,686	....
	1909	378,880	304	2,879	571	190,998	119,226	64,687	215
Woolen manufac- tures.	1914	195,285	1,108	4,675	113,333	64,599	11,511	19	40
	1909	202,029	588	1,270	8,180	133,530	57,384	1,075	2
Hosiery and knit goods.	1914	150,520	3,673	7,860	87,549	34,260	16,515	663	....
	1909	129,275	908	3,331	4,753	65,422	49,934	4,927	....
Silk manufactures..	1914	108,170	1,169	4,916	56,632	43,243	2,190	20	....
	1909	99,037	106	2,320	2,323	81,407	12,881	.....	....
Cordage and twine and jute and linen goods.	1914	27,323	669	213	16,238	7,767	2,295	141	....
	1909	24,866	102	127	2,504	15,752	5,714	667	....

This table shows that there has been a pronounced tendency among textile industries toward a decrease in the working time. In 1909 practically all wage earners were employed in establishments where the prevailing hours were more than 54 per week, whereas in 1914 less than one-half of the total number were employed in establishments of this class. This condition is true of four of the five groups of industries for which separate figures are shown in this table. The cotton mills showed the largest proportion of wage earners employed in establishments having working hours of more than 54 per week.

Character of ownership.—Table 6 presents, for 1914 and 1909, statistics concerning the character of ownership, or legal organization, of the establishments in the combined textile industries and in each of the five groups.

Establishments operated under the corporate form of ownership formed less than two-thirds of the total number engaged in the manufacture of textile fabrics, but this class employed 88.6 per cent of the wage earners and produced 87.8 per cent of the products as measured by value. This form of ownership was relatively of more importance in cotton manufactures than in the other textile groups shown in the table.

Table 6

CHARACTER OF OWNERSHIP.	NUMBER OF ESTABLISHMENTS.				AVERAGE NUMBER OF WAGE EARNERS.				VALUE OF PRODUCTS.				VALUE ADDED BY MANUFACTURE.			
	1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.		1914	1909	Per cent distribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
TEXTILE MANUFACTURES..	4,991	4,825	100.0	100.0	874,702	834,087	100.0	100.0	\$1,761,709,974	\$1,591,735,706	100.0	100.0	\$668,519,765	\$640,740,332	100.0	100.0
Individuals.....	1,013	1,021	20.3	21.1	36,718	43,366	4.2	5.2	76,387,577	85,906,055	4.3	5.4	28,060,142	34,929,588	4.2	5.5
Corporations.....	3,203	2,975	64.2	61.7	775,142	709,498	88.6	85.1	1,546,157,035	1,342,574,638	87.8	84.3	588,513,747	539,123,889	88.0	84.1
All others.....	775	829	15.5	17.2	62,842	81,223	7.2	9.7	139,165,362	163,255,013	7.9	10.3	51,945,876	66,686,855	7.8	10.4
COTTON MANUFACTURES.....	1,328	1,324	100.0	100.0	393,404	378,880	100.0	100.0	701,300,933	628,391,813	100.0	100.0	257,778,418	257,382,343	100.0	100.0
Individuals.....	105	110	7.9	8.3	4,425	5,366	1.1	1.4	8,711,335	11,489,389	1.2	1.8	3,023,434	4,811,009	1.2	1.9
Corporations.....	1,116	1,113	84.0	84.1	377,708	362,264	96.0	95.6	672,269,539	598,770,236	95.9	95.3	247,391,861	245,052,229	96.0	95.2
All others.....	107	101	8.1	7.6	11,271	11,250	2.9	3.0	20,320,059	18,132,188	2.9	2.9	7,363,123	7,519,105	2.9	2.9
WOOL MANUFACTURES.....	979	1,124	100.0	100.0	195,285	202,029	100.0	100.0	464,249,813	507,166,710	100.0	100.0	166,186,315	184,725,667	100.0	100.0
Individuals.....	176	257	18.0	22.9	9,489	11,292	4.9	5.6	25,951,835	29,474,655	5.6	5.8	7,978,702	9,810,173	4.8	5.3
Corporations.....	645	635	65.9	56.5	167,863	162,880	85.9	80.6	393,585,924	410,182,889	84.8	80.9	142,435,321	150,701,305	85.7	81.6
All others.....	158	232	16.1	20.6	17,933	27,857	9.2	13.8	44,712,054	67,509,166	9.6	13.3	15,772,292	24,214,189	9.5	13.1
HOSIERY AND KNIT GOODS..	1,622	1,374	100.0	100.0	150,520	129,275	100.0	100.0	258,912,903	200,143,527	100.0	100.0	112,225,445	89,902,474	100.0	100.0
Individuals.....	519	443	32.0	32.2	13,907	16,453	9.2	12.7	23,319,057	24,852,520	9.0	12.4	9,305,920	10,469,747	8.3	11.6
Corporations.....	785	651	48.4	47.4	120,697	93,174	80.2	72.1	208,404,357	142,021,832	80.5	71.0	91,499,451	64,775,021	81.5	72.1
All others.....	318	280	19.6	20.4	15,916	19,648	10.6	15.2	27,189,489	33,269,175	10.5	16.6	11,420,074	14,657,706	10.2	16.3
SILK MANUFACTURES.....	902	852	100.0	100.0	108,170	99,037	100.0	100.0	254,011,257	196,911,667	100.0	100.0	109,568,936	89,144,751	100.0	100.0
Individuals.....	180	180	20.0	21.1	8,117	9,746	7.5	9.8	16,407,605	19,081,800	6.5	9.7	7,019,655	9,533,210	6.4	10.7
Corporations.....	543	468	60.2	54.9	86,033	67,387	79.5	68.1	199,073,261	134,495,867	78.4	68.3	86,932,145	59,758,434	79.3	67.0
All others.....	179	204	19.8	23.9	14,020	21,904	13.0	22.1	38,530,391	43,334,000	15.2	22.0	15,617,136	19,853,107	14.3	22.3
CORDAGE AND TWINE AND JUTE AND LINEN GOODS..	160	151	100.0	100.0	27,323	24,866	100.0	100.0	83,235,068	59,121,989	100.0	100.0	22,760,651	19,585,097	100.0	100.0
Individuals.....	33	30	20.6	19.9	780	509	2.9	2.0	1,997,745	1,002,207	2.4	1.7	732,431	305,449	3.2	1.6
Corporations.....	114	105	71.3	69.5	22,841	23,771	83.6	95.6	72,823,954	56,948,240	87.5	96.3	20,254,969	18,807,493	89.0	96.0
All others.....	13	16	8.1	10.6	3,702	586	13.5	2.4	8,413,369	1,171,542	10.1	2.0	1,773,251	472,155	7.8	2.4

Establishments under "individual" and "all other" ownership were fewer in number in 1914 than in 1909, and show a decrease in the number of wage earners employed and in value of products.

Engines and power.—Table 7 shows, for 1914, 1909, and 1904, for the five groups of industries combined,

the number and total horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

Table 7

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	30,527	15,161	9,439	2,364,986	1,976,026	1,526,031	100.0	100.0	100.0
Owned.....	7,286	7,977	7,826	1,998,198	1,804,584	1,475,178	84.5	91.3	96.7
Steam engines and turbines ¹	4,696	5,131	5,080	1,554,562	1,373,645	1,104,557	65.7	69.5	72.4
Internal-combustion engines.....	263	289	196	12,403	9,171	5,249	0.5	0.5	0.3
Water wheels, turbines, and motors.....	2,327	2,557	2,550	431,233	421,768	365,372	18.2	21.3	23.9
Rented.....	23,241	7,184	1,613	366,788	171,442	50,853	15.5	8.7	3.3
Electric.....	23,241	7,184	1,613	347,751	150,997	26,096	14.7	7.6	1.7
Other.....				19,037	20,445	24,757	0.8	1.0	1.6
Electric.....	52,195	19,483	5,013	810,014	389,567	122,464	100.0	100.0	100.0
Rented.....	23,241	7,184	1,613	347,751	150,997	26,096	42.9	38.8	21.3
Generated by establishments reporting.....	28,954	12,299	3,400	462,263	238,570	96,368	57.1	61.2	78.7

¹ Figures for horsepower include for 1909 and 1904 the amounts reported under the head of "other" owned power.

The total primary power used in the textile industries combined increased by 838,955 horsepower, or 55 per cent, from 1904 to 1914. At the census of 1904 steam power constituted 72.4 per cent of the total horsepower; in 1909, 69.5 per cent; and in 1914 but 65.7 per cent. Water power, which formed 23.9 per cent of the total primary power in 1904, diminished

to 18.2 per cent in 1914, while rented power, chiefly electric, which formed 3.3 per cent in 1904, increased to 15.5 per cent in 1914. The greatest relative increase for the decade is shown for electric power rented. The amount of such power increased from 26,096 horsepower, or 1.7 per cent of the total primary power, in 1904 to 347,751, or 14.7 per cent of the total, in 1914.

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

Raw fibers used.—Table 8 gives the quantities of the several fibers used as materials in their raw state in the textile industries in 1914, 1909, 1904, and 1899.

Mills which confine their consumption of raw material to some one fiber often buy yarns of other fibers for weaving.

FIBER.	Census year.	COMBINED TEXTILES—RAW FIBERS CONSUMED (POUNDS)—										
		Total.	In cotton manufactures.	In wool manufactures.					In hosiery and knit goods.	In silk manufactures.	In cordage and twine and jute and linen goods.	In wool shoddy.
				In woollen goods.	In worsted goods.	In carpets and rugs.	In felt goods.	In wool-felt hats.				
Cotton.....	1914	2,679,934,778	2,523,500,837	23,915,496	4,471,526	3,802,789	3,117,272	.....	88,390,208	.....	32,336,685	399,965
	1909	2,465,225,572	2,335,344,906	15,801,394	4,222,667	5,147,130	1,375,670	.....	75,416,023	.....	27,624,490	293,292
	1904	1,981,804,446	1,876,437,150	28,279,832	4,333,576	1,997,369	1,982,624	.....	50,586,760	.....	18,142,735	44,400
	1899	1,923,704,600	1,817,643,390	34,967,959	5,276,751	1,943,942	1,225,850	.....	49,451,301	.....	13,022,755	172,652
Wool.....	1914	510,008,799	.....	78,873,319	355,854,756	52,552,449	14,969,852	606,957	6,947,598	.....	.....	203,868
	1909	559,850,995	41,400	87,037,951	387,717,415	64,135,020	12,409,826	1,203,498	7,068,788	.....	.....	237,097
	1904	501,424,203	.....	157,335,727	261,368,084	51,320,521	11,868,238	1,633,525	17,300,616	.....	.....	597,492
	1899	412,745,779	.....	150,200,616	179,977,936	51,871,334	9,606,263	2,713,374	17,953,907	.....	.....	422,349
Animal hair.....	1914	44,821,941	.....	16,199,052	12,921,907	3,469,283	11,540,635	350	690,714	.....	.....	.....
	1909	41,549,822	.....	17,719,863	7,441,659	5,400,944	8,144,011	142,001	191,344	.....	.....	2,510,000
	1904	44,079,928	.....	23,754,714	5,740,249	6,805,802	6,974,634	1210,027	89,502	.....	.....	505,000
	1899	34,775,805	.....	21,034,607	4,504,438	6,189,757	2,819,521	121,482	(?)	.....	.....	106,000
Silk.....	1914	25,021,945	1,057,083	.....	.....	.....	.....	.....	1,590,162	22,374,700	.....	.....
	1909	17,729,306	257,102	.....	.....	.....	.....	.....	(?)	17,472,204	.....	.....
	1904	11,572,783	.....	.....	.....	.....	.....	.....	.....	11,572,783	.....	.....
	1899	9,760,770	.....	.....	.....	.....	.....	.....	.....	9,760,770	.....	.....
Flax.....	1914	26,455,737	1,738,139	.....	.....	.....	.....	.....	.....	.....	24,717,598	.....
	1909	28,063,703	1,108,918	.....	.....	.....	.....	.....	.....	.....	26,954,785	.....
	1904	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	16,980,646	.....	.....	.....	.....	.....	.....	.....	.....	16,980,646	.....
Hemp, jute, etc.....	1914	751,008,927	50,000	.....	.....	.....	.....	.....	.....	.....	750,958,927	.....
	1909	632,786,278	22,087	.....	.....	.....	.....	.....	.....	.....	632,764,191	.....
	1904	(2)	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
	1899	507,777,585	.....	.....	.....	.....	.....	.....	.....	.....	507,777,585	.....

¹ Includes hatters' fur.

² Figures not available.

Cotton is the fiber most generally used as a material, and in 1914 the purchase of raw cotton was reported by all of the textile industries using raw fiber, except the silk manufactures and the wool-felt hat industry. In 1914 cotton formed 66.4 per cent of the entire amount of raw fiber used, as compared with 65.8 per cent in 1909 and 66.2 per cent in 1899. The increase for 1914 over 1899 in the amount of cotton used in the textile industries was 756,230,178 pounds, or 39.3 per cent. In the cotton manufactures, which in 1914 consumed 94.2 per cent of the cotton used in the combined textile industries, the increase in the amount of cotton used was 705,857,447 pounds, or 38.8 per cent, in hosiery and knit goods, 38,938,907 pounds, or 78.7 per cent; while cordage and twine and jute and linen goods consumed 148.3 per cent more cotton in 1914 than in 1899. The amount of raw cotton used in the manufacture of carpets and rugs and felt goods increased 95.6 per cent and 154.3 per cent, respectively, during the fifteen-year period, while the other branches of the wool manufactures—woolen goods and worsted goods—showed a material decrease in the quantity used.

Hemp, jute, and similar fibers, other than flax, ranked next to cotton in quantity used (though not in value), but the consumption reported is confined almost exclusively to the group of industries designated "cordage and twine and jute and linen goods." Wool ranked third in importance as a material in the textile industries, comprising, in 1914, 12.6 per cent of the entire quantity of fiber reported. During the 15 years covered by the table there was an increase of 97,263,020 pounds, or 23.6 per cent, in the consumption of wool. The increase in the amount consumed in the industries constituting wool manufactures amounted to 108,487,810 pounds. This increase was to some extent offset by a decrease of 11,006,309 pounds in the quantity of wool used in the manufacture of hosiery and knit goods. The worsted-goods industry showed an increase in consumption of 175,876,820 pounds in 1914 over 1899, while in the woollen-goods industry the amount of wool decreased 71,327,297 pounds, or 47.5 per cent.

The consumption of animal hair by the combined industries was somewhat greater in 1914 than in 1909, 1904, or 1899.

The use of raw silk is practically confined to the silk industry, although small amounts were used in cotton manufactures and hosiery and knit goods. Some of the other textile industries, however, used considerable quantities of silk yarn. (See Table 9.) The increase between 1899 and 1914 in the quantity of raw silk used was 15,261,175 pounds, or 156.4 per cent.

Yarns purchased.—Table 9 shows, for 1914, 1909, 1904, and 1899, the quantity of purchased yarns used in the textile industries, the quantity consumed in wool manufactures being shown for each branch of the wool industry. The large quantities of yarns made in the same establishments which used them as material in further manufacture are not included, because the material from which such yarns are made has already been reported as fiber used.

Table 9

Table 9	KIND OF YARN.	Census year.	COMBINED TEXTILES—YARN PURCHASED (POUNDS)—									
			Total.	In cotton manu- factures.	In wool manufactures.				In hosiery and knit goods.	In silk manufac- tures.	In cordage and twine and jute and linen goods.	In wool shoddy.
					In woolen goods.	In worsted goods.	In carpets and rugs.	In felt goods.				
Cotton.....	1914	428,316,706	139,482,027	15,316,551	16,788,861	24,619,137	263,780	¹ 205,524,143	² 18,333,810	7,968,054	20,343	
	1909	430,483,305	126,707,003	16,888,501	22,280,887	26,166,241	263,225	216,987,611	² 14,111,878	7,077,959	.....	
	1904	336,359,633	105,411,516	18,878,949	13,719,123	27,421,831	409,453	161,500,466	² 9,018,295	(³)	.....	
	1899	293,368,075	94,692,864	21,922,136	13,420,590	19,823,561	51,707	131,820,068	² 6,664,069	4,973,080	.....	
Woolen, worsted, and merino.	1914	115,832,891	656,789	3,898,922	52,427,109	30,961,720	116,338	25,784,095	1,987,918	.....	.....	
	1909	122,714,085	1,613,118	8,035,598	54,016,104	37,595,684	116,115	20,524,878	610,588	.....	202,000	
	1904	102,272,635	1,428,077	9,582,443	29,673,246	44,823,531	124,380	16,197,803	443,155	(³)	.....	
	1899	89,383,267	1,531,103	12,489,092	22,163,388	42,452,553	80,396	10,426,592	239,461	682	.....	
Silk, spun silk, and artificial silk.	1914	14,239,146	1,305,550	111,580	404,370	273,032	5,711	3,170,721	8,968,182	.....	.....	
	1909	9,929,573	2,062,006	70,959	211,577	196,840	.....	982,753	6,405,438	.....	.....	
	1904	6,875,682	412,589	107,377	304,930	76,009	19	320,671	5,654,096	(³)	.....	
	1899	5,047,955	560,680	57,964	73,951	188,414	14	266,247	3,894,811	5,874	.....	
Linen.....	1914	9,834,110	786,856	8,168	372	7,602,200	338	⁴ 70,278	.....	1,365,898	.....	
	1909	10,652,249	669,532	12,685	.....	8,792,876	1,768	⁴ 241,754	(⁵)	933,634	.....	
	1904	9,048,018	740,097	2,007	1,500	8,228,200	20,822	55,392	.....	(³)	.....	
	1899	10,943,297	1,575,403	7,845	1,314	8,388,211	17,905	71,478	.....	⁶ 881,141	.....	
Jute, ramie, and other vegeta- ble fiber.	1914	66,759,424	202,647	1,966,905	2,748	59,148,266	535,096	(⁷)	.....	4,903,762	.....	
	1909	58,817,959	406,705	1,031,880	2,170	55,592,343	114,339	(⁷)	.....	1,600,522	70,000	
	1904	49,713,205	.....	395,101	13,171	49,119,558	178,150	7,225	.....	(³)	.....	
	1899	41,240,020	220,507	1,118,767	.....	38,846,413	.....	44,682	.....	1,009,651	.....	
Other kinds.....	1914	3,294,162	357,435	.....	.....	.....	.....	.....	2,936,727	.....	.....	
	1909	2,060,260	854,161	.....	.....	.....	.....	.....	1,063,888	142,211	.....	
	1904	1,219,519	950,200	.....	.....	.....	.....	.....	269,319	(³)	.....	
	1899	1,222,943	1,009,745	.....	.....	.....	.....	.....	213,198	.....	.....	

¹ Includes 15,672,427 pounds of mercerized cotton.

² Includes 1,464,299 pounds of mercerized cotton in 1914; 1,494,586 pounds in 1909; 631,247 pounds in 1904; and 219,861 pounds in 1899.

³ Not reported separately.

⁴ Includes jute and other vegetable fiber yarns.

⁵ Included with "other kinds."

⁶ Includes hemp yarn.

⁷ Included in linen.

An increased quantity of each kind of yarn was purchased in 1914, as compared with 1904, but a smaller quantity of cotton, wool, and linen yarns was reported in 1914 than in 1909. Of the different kinds of purchased yarn named in the table, silk yarns show the largest percentage of increase for the decade.

Purchased cotton yarn was used in each of the industries covered by the table, but several industries reported smaller quantities in 1914 than in 1909. Purchased woolen, worsted, and merino yarns were used in 1914 in every industry, except the manufacture of cordage and twine, jute goods, linen goods, and wool shoddy. An increased quantity of these yarns was used in 1914, as compared with 1909, in the manufacture of hosiery and knit goods, silk goods, and felt goods. The amount of purchased silk yarn used shows relatively large increases in practically every branch of textile fabrics, except cotton manufactures.

More than three-fourths (77.3 per cent) of the purchased linen yarns and nearly nine-tenths (88.6 per cent) of the purchased jute yarns in 1914 were used in the carpet and rug industry.

Total production and consumption of cotton and wool yarns.—Table 10 shows, for the combined textile industry and for the several branches, the total production and the total consumption of cotton, woolen and worsted, and merino yarns.

Table 10

INDUSTRY.	Cotton yarns (pounds).	Woolen and worsted yarns (pounds).	Merino yarns (pounds).
Production.....	2,316,835,198	379,846,695	74,338,905
Cotton manufactures.....	2,179,764,168	.....	.....
Wool manufactures.....	11,193,902	371,782,548	49,975,722
Hosiery and knit goods.....	93,023,271	8,064,147	24,363,183
Cordage and twine and jute and linen goods.....	32,853,857	.....	.....
Consumption.....	2,209,893,595	376,690,554	68,675,941
Cotton manufactures.....	1,821,259,196	654,035	2,754
Wool manufactures.....	66,648,071	344,651,302	40,159,842
Hosiery and knit goods.....	265,822,477	29,397,299	28,513,345
Cordage and twine and jute and linen goods.....	39,294,340	.....	.....
Silk manufactures.....	16,869,511	1,987,918	.....

Of the total production of cotton yarn in the textile industries in 1914, 1,798,733,958 pounds, or 77.6 per cent, was made for consumption in the establishments producing and 518,101,240 pounds, or 22.4 per cent, for sale. The total consumption in the seven indus-

tries covered by Table 10 includes 411,159,637 pounds purchased in addition to that made for consumption in the mills producing. The excess of the total production over the total consumption in these industries was 106,941,603 pounds, which is equal to 4.6 per cent of the production; this represents approximately the quantity of cotton yarn used in other industries and in the hand trades, that exported, and in stocks on hand at the close of the year, allowance being made for stocks on hand at its beginning. In like manner the excess of the production shown over the consumption of woolen and worsted yarns in the specified industries was 3,156,141 pounds, or eight-tenths of 1 per cent of the total production; and in the case of merino yarns, 5,662,964 pounds, or 7.6 per cent of the total production.

Producing spindles.—Table 11 gives the number of active producing spindles in textile mills at the time of each census from 1869 to 1914, inclusive. It does not include spindles in establishments engaged primarily in the manufacture of products other than textiles, nor spindles employed on flax, hemp, jute, and allied fibers, of which latter class, 197,021 were returned in 1914; nor does it include doubling and twisting spindles which do not use raw fiber.

CENSUS YEAR.	NUMBER OF SPINDLES.				
	Total.	Used in the manufacture of—			
		Cotton goods.	Silk goods.	Woolen goods.	Worsted goods.
1914.....	38,170,499	31,703,863	2,159,271	2,079,626	2,227,739
1909.....	33,849,850	28,178,862	1,761,758	2,156,424	1,752,806
1904.....	28,721,742	23,672,064	1,394,020	2,456,389	1,199,269
1899.....	23,901,557	19,463,984	1,213,493	2,229,181	994,899
1889.....	¹ 18,092,133	14,384,180	718,360	2,332,269	657,324
1879.....	¹ 13,170,743	10,653,435	262,312	1,915,070	339,926
1869.....	¹ 9,338,953	7,280,800	12,040	1,845,496	200,617

¹ Includes some accessory spindles, except for silk.

The figures represent the number of spindles used in the manufacture of cotton, silk, woolen, and worsted goods, respectively. They do not represent the total number employed in the four classes of mills, however, because some mills use two or more kinds of material. Woolen mills, for example, have a large number of spindles that spin cotton exclusively.

In addition to the statistics of producing cotton spindles reported at the census of manufactures, data are collected as to the number employed during each calendar month in all branches of the textile industry. In July of each year figures are also collected showing the number of cotton spindles in place and the number operated at some time during the cotton year which ends July 31. The number for 1914, as thus compiled, was a total of 32,744,012 cotton spindles in the United States, of which 32,107,572 were active at some time during the year.

Looms.—The loom equipment of active establishments at the time of the several censuses, beginning with that of 1869, is presented in Table 12. It does not include looms in establishments engaged primarily in the manufacture of rag carpets, woven belting and hose, and suspenders, garters, and elastic woven goods, nor products made from flax, hemp, jute, and similar fibers. Cotton looms, operated by power formed 79.9 per cent of the total number of power looms in 1914, silk looms, 10 per cent, and those employed in wool manufactures (which include the manufacture of woolen and worsted goods and carpets and rugs) 10.1 per cent. The corresponding percentages in 1909 were: Cotton looms, 80.6; silk looms, 9.1; looms in wool manufactures, 10.2.

CLASS OF LOOM AND CENSUS YEAR.	NUMBER OF LOOMS.					
	Total.	Used in the manufacture of—				
		Cotton goods.	Silk goods.	Woolen goods.	Worsted goods.	Carpets and rugs.
Power:						
1914.....	848,246	677,920	85,058	28,866	46,581	9,821
1909.....	825,418	665,652	75,406	33,148	39,476	11,736
1904.....	696,785	559,781	59,775	38,104	28,123	11,002
1899.....	573,214	455,752	44,257	36,734	26,630	9,841
1889.....	412,441	324,866	20,822	38,523	19,929	8,301
1879.....	285,494	227,383	5,321	32,955	11,703	8,132
1869.....	200,791	157,748	1,281	34,183	6,128	1,451
Hand:						
1914.....	94	19	(¹)	44		31
1909.....	248	(²)	(¹)	41		207
1904.....	1,039	(²)	283	66		690
1899.....	1,311	(²)	173	83		1,055
1889.....	4,823	(²)	1,747	448		2,628
1879.....	7,929	(²)	3,153	781		3,995
1869.....	4,163	(²)	188	(²)		3,975

¹ Included with power looms.

² Not reported.

COTTON MANUFACTURES.

SUMMARY AND ANALYSIS.

Scope of the report.—This report presents statistics for three classes of mills: (1) those producing "cotton goods," which include mills engaged in the spinning of cotton, in the weaving of piece goods, or in both of these processes; (2) those producing cotton lace; and (3) those producing "cotton small wares," which include establishments manufacturing narrow fabrics, such as tapes, webbing, mill banding, braids, shoe and corset laces, and similar goods. All establishments which produced piece goods or whose chief product was yarn for sale are included in the first class, even though they manufactured some narrow woven goods or braids; the second class includes some establishments which did spinning, but only such as used the yarns in the manufacture of cotton small wares. In 1909 and at previous censuses statistics for establishments manufacturing cotton lace were included with those producing cotton goods and cotton small wares.

Cotton manufactures is the most important branch of the textile industries, which include, in addition, wool manufactures, silk manufactures, hosiery and knit goods, cordage and twine and jute and linen goods. Cotton manufactures outranks any of the other branches in amount of capital invested, materials used, and value of products, reporting, in 1914, 46.7 per cent of the total capital invested, 40.4 per cent of the cost of materials, 39.6 per cent of the value of products, and they used more than two-thirds of the total horsepower reported for the group of textile industries.

Summary for cotton manufactures, 1914.—Table 1 presents a summary of the statistics of cotton manufactures as a whole and of each of the three industries for 1914.

Table 1	Total for the cotton manufacturing industries.	ESTABLISHMENTS ENGAGED PRIMARILY IN MANUFACTURING—		
		Cotton goods.	Cotton lace.	Cotton small wares.
Number of establishments.....	1,328	1,179	41	108
Persons engaged.....	403,911	388,726	8,123	7,062
Proprietors and firm members.....	489	409	10	70
Salaried employees.....	10,018	8,951	673	394
Wage earners (average number).....	393,404	379,366	7,440	6,598
Primary horsepower.....	1,585,953	1,566,757	9,096	10,100
Capital.....	\$899,764,682	\$867,043,678	\$20,956,509	\$11,764,495
Salaries and wages.....	169,822,599	161,679,759	4,679,057	3,463,783
Salaries.....	17,400,000	15,550,131	1,210,976	638,893
Wages.....	152,422,599	146,129,628	3,468,081	2,824,890
Paid for contract work.....	1,614,636	1,483,770	47,896	82,970
Rent and taxes (including internal revenue).....	8,409,837	8,096,029	118,407	195,401
Cost of materials.....	443,522,515	431,602,540	5,676,948	6,243,027
Value of products.....	701,300,933	676,569,115	13,206,785	11,525,033
Value added by manufacture (value of products less cost of materials).....	257,778,418	244,966,575	7,529,837	5,282,006

This table shows that while the manufacture of cotton small wares and cotton lace are important industries, they form a comparatively small proportion of the total for the three industries, comprising but 8.1 per cent and 3 per cent, respectively, of the total number of establishments engaged in cotton manufactures in 1914, and contributing only 1.6 per cent and 1.9 per cent, respectively, of the total value of products.

Comparison with earlier censuses.—The first official report of the manufacture of cotton goods in the United States was that prepared by Trench Coxe, Esq., of Philadelphia, in 1810 and published in 1814. In this report it was shown that there were manufactured in families 16,581,299 yards of cotton goods, worth approximately \$7,900,000. The exact value can not be given, as in the reports of a number of states Mr. Coxe gave the quantity only. Of the total production, 12,045,143 yards, or 72.6 per cent, was reported as manufactured in Virginia, West Tennessee, South Carolina, and Georgia, and the territories of Orleans and Mississippi. Although there were no mills of the type that now predominate in the industry and cotton manufacturing was largely carried on in homes in close proximity to the production of the raw material, there were 269 cotton-manufacturing establishments shown in the report of Trench Coxe, but the data as to quantity and value of output are so meager that the figures are of but little value. Of the 269 establishments, 64 were reported from Pennsylvania, 54 from Massachusetts, 28 from Rhode Island, and 26 from New York, while only 42 (22 in Mississippi Territory) were shown in the Southern states. Of the total number of establishments, 207, or 77 per cent, were reported from the New England and Middle states.

At the census of 1840, which presumably covered the calendar year 1839, more detailed and reliable statistics were compiled for the industry. At that census 1,240 establishments were reported, which gave employment to 72,119 persons, and reported products valued at \$46,350,453. At the census of 1849 there were 1,094 establishments with 92,286 employees, and products valued at \$61,869,184. In 1859, there were 1,091 establishments with 122,028 employees, and with products amounting to \$115,681,774 in value.

Table 2 summarizes the statistics of establishments engaged in cotton manufactures for each census from 1869 to 1914, and gives percentages of increase.

Table 2

COTTON MANUFACTURES.

	Number or amount.							Per cent of increase. ¹					
	1914	1909	1904	1899	1889	1879	1869	1909-1914	1904-1914	1899-1909	1889-1899	1879-1889	1869-1879
Number of establishments	1,328	1,324	1,154	1,055	905	756	956	0.3	15.1	25.5	16.6	19.7	-20.9
Persons engaged	403,911	387,771	323,287	308,237	(²)	(²)	(²)	4.2	24.9	25.8			
Proprietors and firm members	489	377	432	474	(²)	(²)	(²)	29.7	13.2	-20.5			
Salaried employees	10,018	8,514	6,981	4,902	(²)	(²)	(²)	17.7	43.5	73.7			
Wage earners (average number)	393,404	378,880	315,874	302,861	218,876	172,544	135,369	3.8	24.5	25.1	(³)	(³)	(³)
Primary horsepower	1,585,953	1,296,517	986,604	795,834	464,881	275,504	146,040	22.3	60.7	62.9	71.2	68.7	88.6
Capital	\$899,764,682	\$822,237,529	\$613,110,655	\$467,240,157	\$354,020,843	\$208,280,346	\$140,706,291	9.4	46.8	76.0	32.0	70.0	48.0
Salaries and wages	169,822,599	147,270,903	106,443,687	94,039,951	69,489,272	42,040,510	39,044,132	15.3	59.5	56.6	35.3	65.3	7.7
Salaries	17,400,000	14,411,758	10,237,891	7,350,199	(²)	(²)	(²)	20.7	70.0	96.1			
Wages	152,422,599	132,859,145	96,205,796	86,689,752	(²)	(²)	(²)	14.7	58.4	53.3			
Paid for contract work	1,614,636	2,157,069	528,826	1,702,393	(²)	(²)	(²)	-25.1	(³)	(³)			
Rent and taxes (including internal revenue)	8,409,837	6,196,492	4,489,973	4,429,155	(²)	(²)	(²)	35.7	(³)	(³)			
Cost of materials	443,522,515	371,009,470	286,255,303	176,551,527	154,912,979	102,206,347	111,736,936	19.5	54.9	110.1	14.0	51.6	-8.5
Value of products	701,300,933	628,391,813	450,467,704	339,200,320	267,981,724	192,090,110	177,489,739	11.6	55.7	85.3	26.6	39.5	8.2
Value added by manufacture (value of products less cost of materials)	257,778,418	257,382,343	164,212,401	162,648,793	113,068,745	89,883,763	65,752,803	0.2	57.0	58.2	43.8	25.8	36.7

¹ A minus sign (-) denotes decrease.² Figures not available.³ Figures not strictly comparable.⁴ Exclusive of internal revenue.

Prior to the census of 1899, no distinction was made between plants manufacturing different classes of cotton goods, but at that census and at each subsequent census the manufacture of cotton small wares was reported separately, and in 1914 a further segregation of cotton-lace establishments was made. At prior censuses the manufacture of cotton lace was included with "cotton goods" or "cotton small wares"; therefore, in making comparisons of the figures for 1914 with those for prior censuses, only the total for the three industries can be used. In this and all subsequent tables, except as specially noted, statistics for all three industries are combined.

The table shows that with but slight and unimportant exceptions there has been a rapid increase in the cotton manufactures of the country. While the number of establishments engaged in cotton manufactures showed an increase in 1914 of only about 40 per cent, as compared with the number in 1869, the number of wage earners reported in 1914 was nearly three times as great, and the value of products and the value added by manufacture were each about four times as great as that reported 45 years earlier. The percentages of increase in the last two items were actually greater than those based on the figures in the table, owing to the fact that the financial figures for 1869 were reported in a depreciated currency.

Summary, by states.—Table 3 summarizes the more important statistics of cotton manufactures, by states, the states being arranged according to the value of products reported for 1914. Some of the states for which data can not be shown separately without disclosing the operations of individual establishments rank higher than some of those named in the table. The relative importance of the several states in each of the items in the table is shown by the per cent distribution, and the progress of cotton manufactures in each state, by the rank and the per cent of increase or decrease.

Cotton manufactures are comparatively unimportant in the states west of the Mississippi River. In 1914 there were only 19 establishments in this section, and they gave employment to but eight-tenths of 1 per cent of the wage earners and reported only 1 per cent of the total value of products for the United States. The industry, however, is increasing in these states, and during the five-year period 1909-1914 the value of the output increased by 32.9 per cent.

East of the Mississippi, cotton manufactures were widely distributed, only two states—Florida and West Virginia—reporting no cotton mills in 1914. Massachusetts is the most important cotton manufacturing state and has ranked first at each census since 1839. At the census of 1914 the value of products for the state formed 28.1 per cent of the total for the United States, and wage earners formed 28.9 per cent of the total number.

Five states reported a smaller output in value of products in 1914 than in 1909, the greatest decrease, 28.2 per cent, appearing for Indiana. Ohio, the least important state for which comparative figures are shown in the table, reported the greatest per cent of increase from 1909 to 1914, 130.8, in value of products; also the highest relative increase in the number of wage earners and in value added by manufacture, 170.1 per cent and 241 per cent, respectively. North Carolina, Georgia, Virginia, and Texas also show material increases in value of products, ranging from 36.4 per cent in Virginia to 24.9 per cent in North Carolina.

In 1914 the four Southern states of greatest importance in the manufacture of cotton goods—North Carolina, South Carolina, Georgia, and Alabama—reported 46.4 per cent of the establishments, 36.8 per cent of the wage earners, and 36.4 per cent of the value of products for the United States. In 1909 the percentages were 44.9, 35.2, and 33.2, respectively. The relative increase from 1909 to 1914, especially in the

value of the products, was very much greater for these states than for the country as a whole, being 22 per cent as compared with 11.6 per cent for all states.

The value of the output of these four states in 1914 was more than three times as great as in 1899, while that of the entire United States was about double.

Table 3	COTTON MANUFACTURES: 1914.												PER CENT OF INCREASE. ¹								
	STATE.	Number of establish- ments.	Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number).			Value of products.			Value added by manufacture.			
			Average num- ber.	Per cent distrib- ution.	Rank.	Amount.	Per cent distrib- ution.	Rank.	Amount.	Per cent distrib- ution.	Rank.	1909- 1914	1904- 1909	1899- 1904	1909- 1914	1904- 1909	1899- 1904	1909- 1914	1904- 1909	1899- 1904	
United States.....	1,328	393,404	100.0	.....	\$701,300,933	100.0	.....	\$257,778,418	100.0	.....	3.8	19.9	4.3	11.6	39.5	32.8	0.2	56.7	1.0		
Massachusetts.....	189	113,559	28.9	1	197,322,111	28.1	1	77,487,777	30.1	1	4.3	22.9	-4.2	5.8	43.4	17.0	-4.7	63.3	-12.2		
North Carolina.....	293	53,703	13.7	2	90,743,683	12.9	2	28,405,261	11.0	2	13.7	29.9	20.1	24.9	53.8	66.5	18.4	68.6	29.5		
South Carolina.....	148	46,448	11.8	3	78,446,145	11.2	3	24,556,991	9.5	3	2.2	22.0	23.4	19.0	33.4	66.3	-0.3	62.8	21.4		
Georgia ²	118	30,719	7.8	4	59,982,008	8.6	4	18,772,434	7.3	5	10.5	16.2	32.0	24.9	36.6	90.6	17.4	41.0	54.4		
Rhode Island.....	102	29,483	7.5	5	49,718,837	7.1	5	20,962,528	8.1	4	2.4	16.3	3.0	-1.2	45.5	30.8	-15.9	67.1	1.1		
New Hampshire.....	20	21,669	5.5	6	35,793,044	5.1	6	13,003,455	5.1	8	-2.8	13.0	-3.5	6.5	13.7	28.4	-10.2	31.1	0.1		
Pennsylvania.....	155	14,640	3.7	7	32,400,446	4.6	7	14,836,918	5.8	6	-10.1	6.7	-10.3	-4.5	29.0	3.3	-2.1	26.6	-2.4		
Connecticut.....	50	15,466	3.9	7	30,808,918	4.4	8	13,474,040	5.2	7	7.2	9.5	-0.6	27.1	31.5	19.0	9.8	49.3	3.4		
Alabama.....	57	13,697	3.5	10	25,622,583	3.7	9	7,843,513	3.0	10	10.9	37.8	15.4	37.8	32.5	105.6	0.1	65.1	42.7		
Maine.....	15	13,834	3.5	9	22,121,711	3.2	10	9,088,742	3.5	9	-5.5	18.2	-9.8	0.9	42.4	5.3	-13.8	69.1	-17.9		
New York.....	51	9,127	2.3	11	18,464,811	2.6	11	6,811,373	2.6	11	-14.4	21.2	-5.0	-9.3	51.5	24.5	-21.0	80.1	-5.5		
New Jersey.....	30	7,394	1.9	12	16,782,164	2.4	12	6,666,630	2.6	12	11.4	.....	.....	22.2	.....	.....	29.1	.....	.....		
Virginia.....	9	6,310	1.6	13	10,216,185	1.5	13	4,158,884	1.6	13	24.8	46.3	17.9	36.4	67.0	68.9	49.0	65.9	35.3		
Maryland.....	13	3,424	0.9	14	6,790,935	1.0	14	2,338,610	0.9	14	-13.7	-0.7	-15.5	23.0	5.3	-3.3	54.8	10.1	-42.4		
Tennessee.....	15	3,403	0.9	15	6,485,640	0.9	15	1,931,571	0.8	15	10.6	34.2	8.8	24.7	46.1	78.5	4.0	40.7	54.9		
Texas.....	12	1,875	0.5	17	3,754,785	0.5	16	1,111,597	0.4	17	17.9	60.1	0.9	33.4	77.4	32.2	8.8	79.6	1.8		
Mississippi.....	11	1,989	0.5	16	2,789,007	0.4	17	977,007	0.4	18	-24.8	22.4	29.0	-10.1	25.9	67.2	-7.9	30.2	15.3		
Illinois.....	7	1,356	0.3	18	2,778,706	0.4	18	1,256,171	0.5	16	2.8	153.2	.....	31.6	244.4	.....	25.5	217.3	.....		
Kentucky.....	4	1,158	0.3	19	1,991,346	0.3	19	661,359	0.3	21	20.9	1.3	-23.7	4.7	21.5	-6.0	-7.4	78.5	-42.2		
Indiana ²	4	961	0.2	21	1,796,581	0.3	20	663,021	0.3	20	-39.3	34.8	-17.4	-28.2	68.6	11.2	-20.3	141.9	-45.7		
Vermont.....	4	992	0.2	20	1,558,974	0.2	21	606,713	0.2	22	.....	.....	.....	.....	.....	.....	.....	.....	.....		
Ohio.....	6	478	0.1	24	912,189	0.1	24	550,824	0.2	23	170.1	.....	.....	130.8	.....	.....	241.0	.....	.....		
Michigan.....	3	31	(³)	28	148,065	(³)	28	33,990	(³)	28	.....	.....	.....	.....	.....	.....	.....	.....	.....		
All other states.....	12	1,688	0.4	.....	3,871,459	0.6	.....	1,569,009	0.6	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....		

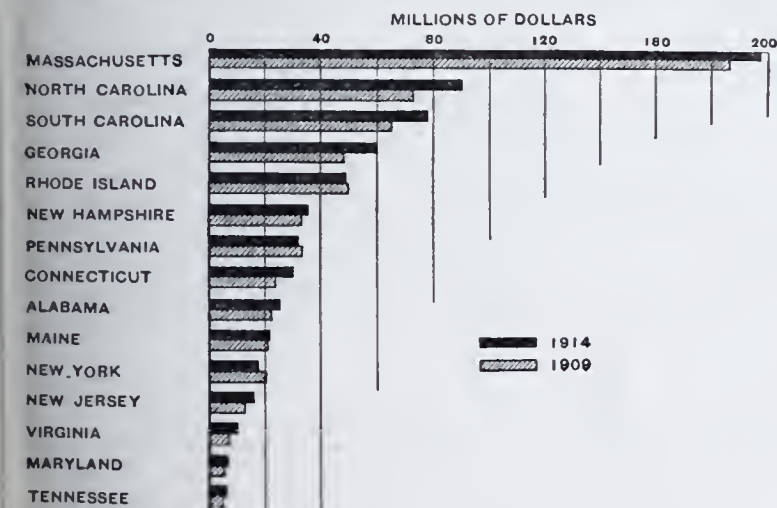
¹ Percentages are based on figures in Table 50; a minus sign (—) denotes decrease. Percentages are omitted where comparable figures can not be given.

² Excludes statistics for one establishment, to avoid disclosure of individual operations. These are included in "all other states."

³ Less than one-tenth of 1 per cent.

The diagram which follows illustrates graphically the value of products reported for the most important states in cotton manufactures for 1914 and 1909. The map on the following page shows the number of cotton mills in 1914, distributed by states. Twenty-two counties (considering Greater New York as one county) reported more than 10 establishments each. They are indicated on the map by means of a square.

COTTON MANUFACTURES—VALUE OF, BY STATES: 1914 AND 1909.



Persons engaged in the industries.—Table 4 shows, for 1914 and 1909, the number of persons engaged in cotton manufactures as a whole, and, for 1914, the number engaged in each of the three industries into

which it is divided, distributed according to occupational status and sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

Statistics for cotton-lace goods were separately presented for the first time in 1914, some of the establishments in this industry being included with the cotton-goods industry and some with the cotton-small-wares industry at previous censuses. For this reason the figures for each of the industries are shown for 1914 only.

The female wage earners employed in the three industries combined show an absolute as well as a relative decrease for 1914 as compared with 1909, the increase in the number of those over 16 years of age being more than offset by the decrease in the number of those under 16. The number of boys employed also decreased during the five-year period, although not to so great an extent as did the number of girls. While male wage earners exceeded the females in the cotton-goods industry, the female wage earners were greatly in excess in the manufacture of cotton small wares and of cotton lace. Children constituted a larger proportion of the wage earners engaged in the manufacture of cotton goods than in either of the other industries.

COTTON MANUFACTURES—NUMBER OF ESTABLISHMENTS, BY STATES: 1914.

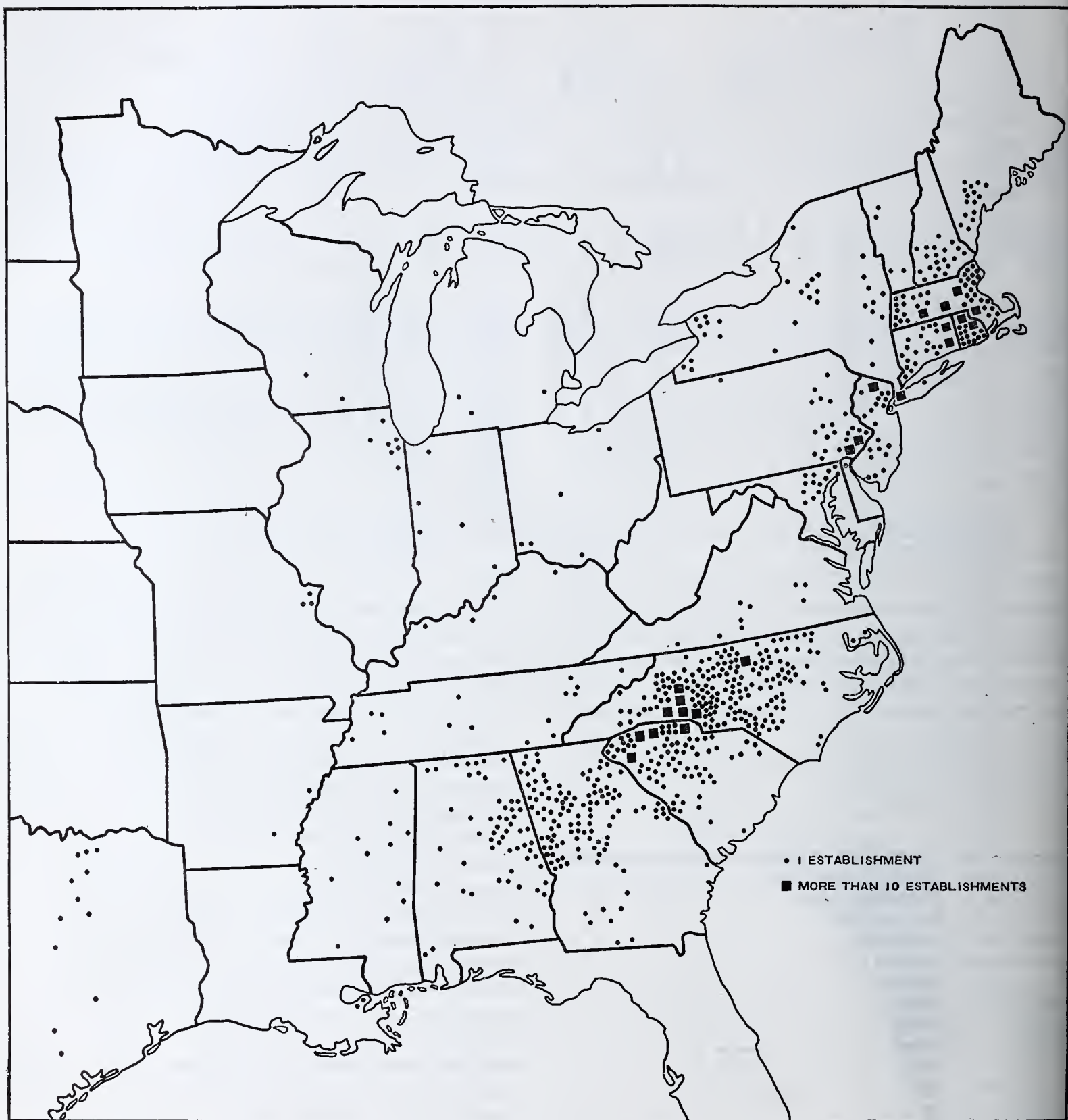


Table 32 NUMBER OF LOOMS IN THE COTTON-GOODS INDUSTRY: 1914¹

LOOM.	Total.	Width.			Domes- tic make.	For- eign make.
		Nar- row, less than 32 inches.	Broad, 32 to 42 inches.	Special, 43 inches and over.		
Total.....	672,754	115,507	477,884	79,363	672,351	403
Plain, total.....	556,385	100,625	390,607	65,153	556,138	247
Nonautomatic.....	359,476	70,203	246,922	42,351	359,366	110
Two-harness.....	211,220	39,526	146,316	25,378	211,198	22
More than two-harness.....	105,189	16,158	74,800	14,231	105,111	78
Box.....	43,067	14,519	25,806	2,742	43,057	10
Automatic.....	196,909	30,422	143,685	22,802	196,772	137
Circular.....	940	.....	940	.....	940	.....
Fancy, total.....	115,429	14,882	86,337	14,210	115,273	156
Nonautomatic.....	104,462	13,519	77,699	13,244	104,442	20
Dobby.....	66,940	8,030	54,435	4,475	66,920	20
Dobby box.....	18,145	3,072	13,324	1,749	18,145	.....
Jacquard.....	12,986	1,355	7,381	4,250	12,986	.....
Jacquard box.....	6,391	1,062	2,559	2,770	6,391	.....
Automatic.....	10,967	1,363	8,638	966	10,831	136

¹ Not including mills in the cotton-small-wares and cotton-lace industries.

Looms reported by establishments engaged primarily in the manufacture of cotton small wares and of cotton lace are not included in this nor in the following table; these looms are so different in character from the ordinary cotton looms that to include them would only produce confusion.

More than 70 per cent of all the looms were designated as broad looms (32 to 42 inches in width). Plain looms constituted 82.7 per cent of the total and fancy looms, 17.2 per cent. Two-harness and automatic looms were the chief kinds of plain looms used, while dobbie looms constituted nearly three-fifths of the fancy looms. Less than one-tenth of 1 per cent of the looms were of foreign manufacture.

Table 33 gives, by states, for 1914 the number of looms classified according to kind and width. Of the total number of looms, Massachusetts, with 228,127 or 33.9 per cent, ranked first, while South Carolina, North Carolina, and Rhode Island each reported more than 50,000 looms.

Table 33 LOOMS IN COTTON MILLS.¹

LOOM.	United States.													
		Ala- bama.	Connec- ticut.	Georgia.	Maine.	Massa- chusetts.	New Hamp- shire.	New York.	North Carolina.	Penn- syl- vania.	Rhode Island.	South Carolina.	Vir- ginia.	All other states.
Total.....	672,754	18,463	26,721	41,869	28,972	228,127	41,206	11,722	60,931	10,583	52,095	111,189	14,436	26,440
Domestic make.....	672,351	18,463	26,720	41,869	28,836	228,056	41,206	11,666	60,931	10,446	52,095	111,187	14,436	26,440
Foreign make.....	403	.....	1	.....	136	71	.....	56	.....	137	.....	2	.....	.....
Plain.....	556,385	17,520	22,139	38,336	27,431	170,620	38,975	9,932	51,593	5,123	40,314	98,276	14,136	21,990
Nonautomatic.....	359,476	7,536	7,358	13,883	3,642	83,784	2,651	1,928	16,676	159	17,290	40,983	2,416	12,914
Two-harness.....	211,220	1,183	482	913	312	20,754	781	398	6,227	7	302	5,864	735	1,568
Narrow (less than 32 inches).....	146,316	5,327	5,474	9,859	2,508	54,167	1,667	571	9,779	67	14,072	32,417	1,606	8,802
Broad (32 to 42 inches).....	25,378	1,026	1,402	3,111	822	8,863	203	959	670	85	2,916	2,702	75	2,544
Special (43 inches and over).....	105,189	681	6,857	6,441	1,729	44,600	5,530	1,058	11,659	2,640	11,153	9,561	134	3,146
More than two-harness.....	16,158	128	910	905	270	7,599	1,031	20	2,282	349	717	1,293	.....	654
Narrow.....	74,800	361	4,125	4,872	1,459	32,382	4,072	738	8,522	1,513	6,223	8,258	111	2,164
Broad.....	14,231	192	1,822	664	.....	4,619	427	300	855	778	4,213	10	23	328
Special.....	43,067	382	16	3,313	4,211	6,099	14,652	74	6,637	1,511	126	2,357	3,334	355
Box.....	14,519	.....	.....	288	.....	779	4,173	21	4,076	537	28	1,401	2,969	247
Narrow.....	25,806	354	16	2,491	4,211	5,136	9,178	36	2,461	734	20	722	365	82
Broad.....	2,742	28	.....	534	.....	184	1,301	17	100	240	78	234	.....	26
Special.....	196,909	8,921	7,908	14,699	17,849	36,137	16,142	6,872	16,621	813	11,745	45,375	8,252	5,575
Automatic.....	30,422	2,034	3,634	2,088	2,849	5,258	827	.....	3,317	.....	878	5,270	2,846	1,421
Narrow.....	143,685	5,539	3,935	10,157	11,377	20,832	13,469	5,509	10,489	619	9,899	39,169	3,730	2,961
Broad.....	22,802	1,348	339	2,454	3,623	4,047	1,846	1,363	2,815	194	968	936	1,676	1,193
Special.....	940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	940	.....	.....
Circular.....	940	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	940	.....	.....
Narrow.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Broad.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Special.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Fancy.....	115,429	943	4,582	3,533	1,541	57,507	2,231	1,790	9,338	5,460	11,781	11,973	300	4,450
Nonautomatic.....	66,940	.....	2,761	2,063	340	38,104	1,549	1,107	2,222	855	4,972	9,357	300	3,310
Dobby.....	8,030	.....	49	40	.....	3,837	19	78	582	50	291	2,153	.....	931
Narrow.....	54,435	.....	2,518	1,797	340	32,385	1,454	989	1,640	683	3,568	7,124	300	1,637
Broad.....	4,475	.....	194	226	.....	1,882	76	49	.....	122	1,113	80	.....	742
Special.....	18,145	.....	879	806	238	6,437	49	47	3,733	2,357	2,732	698	.....	169
Dobby box.....	3,072	.....	.....	92	.....	387	25	43	1,925	203	367	.....	.....	30
Narrow.....	13,324	.....	825	522	232	5,488	24	.....	1,808	1,846	1,757	698	.....	124
Broad.....	1,749	.....	54	192	6	562	.....	4	.....	308	608	.....	.....	15
Special.....	12,986	193	174	372	441	7,263	369	131	1,351	1,156	1,087	318	.....	131
Jacquard.....	1,355	.....	.....	108	.....	860	.....	125	92	1	100	61	.....	8
Narrow.....	7,381	.....	100	229	144	5,726	.....	.....	140	43	818	150	.....	31
Broad.....	4,250	193	74	143	189	677	369	6	1,119	1,112	169	107	.....	92
Special.....	6,391	.....	5	132	278	1,080	34	92	409	1,084	2,836	52	.....	389
Jacquard box.....	1,062	.....	.....	.....	.....	12	.....	80	350	.....	620	.....	.....	.....
Narrow.....	2,559	.....	.....	.....	.....	600	.....	12	6	204	1,616	56	.....	71
Broad.....	2,770	.....	5	132	278	468	34	.....	53	880	600	2	.....	318
Special.....	10,967	750	763	160	244	4,623	230	413	1,623	8	154	1,548	.....	451
Automatic.....	1,363	720	34	.....	.....	138	.....	.....	.....	.....	58	24	.....	389
Narrow.....	8,638	.....	729	160	184	3,896	.....	413	1,615	.....	55	1,524	.....	62
Broad.....	966	30	.....	60	.....	539	230	.....	8	8	41	.....	.....	.....
Special.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Not including mills in the cotton-small-wares or cotton-lace industries.

Relation of spindles to wage earners and cotton consumption.—Table 34 shows the average number of wage earners in cotton mills (including the mills in the cotton-small-wares and cotton-lace industries), the amount of wages paid, the total number of active producing spindles, the number of such spindles per wage earner, and the amount of wages paid per spindle, for each census year from 1879 to 1914. A marked increase in the number of spindles per wage earner and in the amount of wages paid per spindle is shown by this table.

COTTON MANUFACTURES:					
YEAR.	Wage earners (average number).	Wages.	Number of active producing spindles.	Number of spindles per wage earner.	Wages per spindle.
1914.....	393,404	\$152,422,599	30,915,489	78.51	\$4.93
1909.....	378,880	132,859,145	27,425,608	72.39	4.84
1904.....	315,874	96,205,796	23,195,143	73.43	4.15
1899.....	302,861	86,689,752	19,050,952	62.90	4.55
1889.....	218,876	66,024,538	14,188,103	64.82	4.65
1879.....	172,544	42,040,510	10,653,435	61.74	3.95

Table 35 shows the amount of cotton used per spindle in cotton manufactures in the United States during each census year from 1879 to 1914 and in the leading states during 1914 and 1909.

STATE.	COTTON CONSUMED PER SPINDLE IN COTTON MANUFACTURES (POUNDS).	
United States:		
1914.....	81.70	
1909.....	85.15	
1904.....	80.90	
1899.....	95.41	
1889.....	78.79	
1879.....	70.43	
Leading states:	1914	1909
New England—		
Massachusetts.....	59.13	66.39
New Hampshire.....	105.47	105.03
Rhode Island.....	50.98	47.70
Southern—		
Alabama.....	128.82	131.22
Georgia.....	141.36	143.37
North Carolina.....	112.94	120.41
South Carolina.....	81.92	86.40

In considering this table it is necessary to bear in mind that the number of active spindles used as the basis of the calculations involved include all spindles active at any time during the census year without regard to the duration of activity. The table, however, shows only the actual results of average spindle consumption and does not indicate average spindle capacity. As previously stated, spindles are operated at varying speeds and on different counts of yarns and these with the time employed are the controlling factors in the production by the spindles in any locality. A reduction in the consumption per spindle might indicate either increased nonemployment or a higher grade of production—that is, the spinning of finer counts, or both.

Dyeing and finishing and contract work.—Table 36 gives, by states, the number of establishments bleach-

ing, dyeing, or printing their own goods, the number performing these processes for others, and the number doing custom spinning and weaving, as reported for 1914 and 1909.

Table 36	ESTABLISHMENTS IN COTTON MANUFACTURES.								
	STATE.	Total number.		Bleaching, dyeing, or printing—				Doing custom spinning or weaving.	
				Their own goods.		For others.			
		1914	1909	1914	1909	1914	1909	1914	1909
United States.....	1,328	1,324	268	315	36	27	46	19	
Alabama.....	57	51	6	4					
Connecticut.....	50	52	12	14	1	1	2	1	
Georgia.....	119	116	15	31	1		2		
Maine.....	15	16	5	3			2		
Massachusetts.....	189	182	48	48	10	9	15	4	
New Hampshire.....	20	21	8	9	2	2			
New Jersey.....	30	26	8	8	4	2	2		
New York.....	51	47	12	21	1	3			
North Carolina.....	293	281	61	70	4	3	5		
Pennsylvania.....	155	175	37	49	4	3	11	8	
Rhode Island.....	102	106	22	19	6	3	5	5	
South Carolina.....	148	147	13	19	1				
All other states.....	99	104	21	20	2	1	2	1	

Of the 1,328 establishments in the cotton-manufacturing industries in 1914 only 268 reported that they bleached, dyed, or printed their own goods, and of these only 36 performed processes for others. Custom spinning or weaving was done by 46. Among the states there is considerable variation in the proportion of the mills doing bleaching, dyeing, or printing. Approximately 15 per cent of the mills in the South reported these operations, while the proportion of the total number in the Northern states was 25 per cent. The total expenditure by cotton mills for contract work of all kinds in 1914 amounted to \$1,614,636. This is shown, by states, in Table 51.

STATISTICS FOR THE COTTON-LACE INDUSTRY.

Statistics for the cotton-lace industry were collected separately for the first time in 1914. At all previous censuses the statistics for the establishments in this industry were included with those for the cotton-goods and the cotton-small-wares industries.

Summary, by states.—The principal statistics of the industry are presented in the following table, for 1914, for the United States and for those states for which separates statistics can be shown.

There were 41 establishments reporting, distributed among 9 states as follows: Connecticut, 3; Illinois, 1; Missouri, 1; New Hampshire, 2; New Jersey, 1; New York, 10; Ohio, 1; Pennsylvania, 13; and Rhode Island, 9. The total value of the product reported by these establishments amounted to \$13,206,785 and, in addition, 3 establishments engaged primarily in other industries reported the production of cotton-lace goods to the value of \$958,738. Pennsylvania was by far the most important state in the industry, having reported 48.4 per cent of the average number of wage earners, 59.2 per cent of the capital invested, 44.1 per

cent of the amount paid for wages, and 49.5 per cent of the value of products. In number of establishments, value of products, and cost of materials, New York ranked second, but in number of persons employed and salaries and wages paid Rhode Island occupied that position.

Table 37	COTTON-LACE INDUSTRY: 1914.				
	United States.	New York.	Pennsylvania.	Rhode Island.	All other states.
Number of establishments..	41	10	13	9	9
Persons engaged.....	8,123	1,182	3,970	1,452	1,519
Proprietors and firm members.....	10	6	3	-----	1
Salaried employees.....	673	81	365	95	132
Wage earners (average number).....	7,440	1,095	3,602	1,357	1,386
Primary horsepower.....	9,096	1,428	4,743	1,315	1,610
Capital.....	\$20,956,509	\$3,036,225	\$12,404,430	\$3,122,216	\$2,393,638
Salaries and wages.....	4,679,057	671,593	2,230,553	868,138	908,773
Salaries.....	1,210,976	133,391	702,398	178,802	196,385
Wages.....	3,468,081	538,202	1,528,155	689,336	712,388
Paid for contract work.....	47,896	-----	18,411	29,466	19
Rent and taxes (including internal revenue).....	118,407	17,214	47,353	30,590	23,250
Cost of materials.....	5,676,948	900,681	3,037,936	831,341	906,990
Value of products.....	13,206,785	2,194,088	6,534,485	2,056,962	2,421,250
Value added by manufacture (value of products less cost of materials).....	7,529,837	1,293,407	3,496,549	1,225,621	1,514,260

Materials.—Table 38 gives the quantity and cost of the principal materials used in this industry for the United States, and, as far as can be shown without disclosing individual operations, for the principal states engaged.

Table 38	COTTON-LACE INDUSTRY: 1914.	
	MATERIAL.	
	Quantity (pounds).	Cost.
United States.....	-----	\$5,676,948
Yarns:		
Cotton—		
United States.....	¹ 11,137,700	¹ 3,709,978
New York.....	1,946,677	577,212
Pennsylvania.....	7,451,857	2,171,934
Rhode Island.....	1,093,489	525,902
All other states.....	645,677	434,930
Mercerized cotton—		
United States.....	247,801	83,433
Silk and spun silk—		
United States.....	² 55,240	² 263,612
Rhode Island.....	34,312	163,910
All other states.....	20,928	99,702
Artificial silk—		
United States.....	3,508	7,533
Starch:		
United States.....	-----	39,070
Pennsylvania.....	-----	33,891
All other states.....	-----	5,179
Chemicals and dyestuffs:		
United States.....	-----	75,433
New York.....	-----	9,558
Pennsylvania.....	-----	41,549
Rhode Island.....	-----	10,962
All other states.....	-----	13,364
All other materials.....	-----	1,497,889

¹ Includes raw cotton, statistics for which can not be shown without disclosing individual operations.

² Includes raw silk, statistics for which can not be shown without disclosing individual operations.

Raw cotton and cotton yarn constituted 65.4 per cent and silk and spun silk yarn, 4.6 per cent of the total cost of materials. Practically two-thirds of the quantity and value of cotton yarn was reported from Pennsylvania, while Rhode Island showed about the

same proportion of the total of silk and spun-silk yarns. An appreciable quantity of cotton was purchased in the raw state and spun into yarn by the mills using it, but the statistics can not be shown without disclosing individual operations.

Products.—Table 39 gives, for the United States, and for such states as can be shown separately, the quantity and value of the different products of the cotton-lace industry.

Table 39	COTTON-LACE INDUSTRY: 1914.	
	PRODUCT.	
	Quantity.	Value.
United States, total.....	-----	¹ \$13,206,785
New York.....	-----	2,194,088
Pennsylvania.....	-----	6,534,485
Rhode Island.....	-----	2,056,962
All other states.....	-----	2,421,250
Nottingham lace curtains:		
United States.....	<i>Pairs.</i> 5,591,154	4,678,847
Pennsylvania.....	4,127,985	3,342,828
All other states.....	1,463,169	1,336,019
Nottingham lace-curtain nets:		
United States.....	<i>Linear yards.</i> 7,504,809	1,258,307
Pennsylvania.....	6,696,842	1,019,217
All other states.....	807,967	239,090
Levers laces:		
United States.....	<i>Square yards.</i> 7,236,934	3,681,042
Rhode Island.....	3,761,362	1,815,006
All other states.....	3,475,572	1,866,036
Other narrow laces.....	<i>Linear yards.</i> 166,169,567	896,692
Panels and other small pieces:		
United States.....	<i>Number.</i> 2,359,879	322,594
Pennsylvania.....	2,275,928	278,844
All other states.....	83,951	43,750
Bedspreads:		
United States.....	<i>Number.</i> 719,333	484,107
Pennsylvania.....	530,780	316,330
All other states.....	188,553	167,777
All other laces:		
United States.....	-----	1,199,464
Pennsylvania.....	-----	464,820
All other states.....	-----	734,644
All other products:		
United States.....	-----	685,732
Pennsylvania.....	-----	221,923
All other states.....	-----	463,809

¹ In addition, three establishments engaged primarily in other industries reported products valued at \$958,738.

Measured by value (no other unit of measure being common to the various products), Nottingham lace curtains, which represented 35.4 per cent of the total value of products, constituted the most important class. Levers laces and lace curtain-nets were second and third in importance, representing 27.9 per cent and 9.5 per cent, respectively, of the total. Rhode Island manufactured over one-half of all the levers laces reported for the United States and this one class constituted 88.2 per cent of all the lace goods reported by that state. In every other class of goods Pennsylvania far outranked any of the other states. Owing to the fact that the manufacture of narrow laces is largely confined to a small number of establishments, separate state statistics can not be shown without disclosing the operations of individual plants.

Equipment.—In Table 40 the number of spindles and the different kinds of lace machines are shown, grouped according to manufacture, whether domestic or foreign.

Table 40

MACHINERY.	COTTON-LACE INDUSTRY: 1914.	
	Foreign manufacture (number).	Domestic manufacture (number).
Spindles:		
Frame.....		28,000
Lace machines:		
Nottingham lace curtain.....	412	
Bobbinet.....	28	3
Levers.....	374	70
Warp.....	26	9
All other.....	508	152

Of the lace machines, those used in the manufacture of Nottingham lace curtains form the greatest

proportion, being followed closely by the levers machines. A large number of those classified as "all other" are circular machines. More than five-sixths of the total number of lace machines are of foreign manufacture. The industry is comparatively new in this country and has hardly become of sufficient importance to attract the attention of textile machinery manufacturers.

STATISTICS FOR THE COTTON-SMALL-WARES INDUSTRY.

Statistics for the manufacture of cotton small wares are summarized in Table 41 for 1914, 1909, 1904, and 1899.

Table 41

	COTTON-SMALL-WARES INDUSTRY.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	108	116	77	82	-6.9		
Persons engaged.....	7,062	8,233	5,724	5,206	-14.2	43.8	10.0
Proprietors and firm members.....	70	74	65	85			
Salaried employees.....	394	461	243	189	-14.5	89.7	28.6
Wage earners (average number).....	6,598	7,698	5,415	4,932	-14.3	42.1	9.8
Primary horsepower.....	10,100	10,412	7,495	5,976	-3.0	38.9	25.4
Capital.....	\$11,764,495	\$13,824,772	\$8,010,491	\$6,397,385	-14.9	72.6	25.2
Salaries and wages.....	3,463,783	3,765,968	2,154,224	1,790,067	-8.0	74.8	20.3
Salaries.....	638,893	696,540	326,124	226,625	-8.3	113.6	43.9
Wages.....	2,824,890	3,069,428	1,828,100	1,563,442	-8.0	67.9	16.9
Paid for contract work.....	82,970	98,425	78,009	109,439	-15.7	26.2	28.7
Rent and taxes (including internal revenue).....	195,401	162,838	297,864	277,474	20.0		
Cost of materials.....	6,243,027	6,995,906	4,207,655	3,110,137	-10.8	66.3	35.3
Value of products.....	11,525,033	13,174,111	8,016,486	6,394,164	-12.5	64.3	25.4
Value added by manufacture (value of products less cost of materials).....	5,282,006	6,178,146	3,808,831	3,284,027	-14.5	62.2	16.0

¹ A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

² Exclusive of internal revenue.

This industry includes establishments which use cotton or cotton yarn as their principal material, and confine their operations to the manufacture of narrow fabrics, such as ribbons, tapes, elastic webbing, wicking, corset and apron trimmings, braids, etc. These are either woven on a ribbon loom, where the warp is divided into a number of separate divisions and a series of small shuttles used to weave a number of narrow ribbons or tapes simultaneously, or else made on a braiding machine, which uses but one set of threads, plaiting them together to form the design desired. These mills manufacture no yarn for sale, but some of them spin the yarn which they themselves use. Except as specially noted, these statistics are included with those for cotton manufactures as a whole. In considering the statistics in this and other tables dealing with this industry, it must be remembered that a number of mills assigned to the cotton-goods classification manufacture as a secondary product considerable quantities of goods which properly belong to the cotton-small-wares industry.

There appears to be a decline in the importance of this industry during the five-year period 1909-1914, although a great advance is shown for the previous

five-year period and a general increase may be noted for the decade. The decreases from 1909 to 1914 are due not so much to a lessened production of cotton small wares as to changes in census classifications. Several cotton-lace mills, now classed in the cotton-lace industry, were included with the manufacture of cotton small wares in 1909, and other concerns in which cotton small wares were the principal or only products in 1909 now manufacture these goods only as secondary products, and are therefore classed in other industries.

Summary, by states.—Table 42 gives, by states, for 1914, 1909, 1904, and 1899, the most important statistics of the cotton-small-wares industry.

In every important item shown in the table Rhode Island ranked first, Pennsylvania second, and Massachusetts third at each census, and in 1914 they reported 86.4 per cent of the wage earners and 84.1 per cent of the total value of products of the industry. Massachusetts shows a small increase in the latter item as compared with 1909, but a decrease during this five-year period appears in each of the other states shown in the table.

Table 42

COTTON SMALL WARES—COMPARATIVE STATISTICS, BY STATES.

STATE.	Census year.	Number of establishments.	Persons engaged in the industry.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Pro- prietors and firm mem- bers.	Sal- aried em- ployees.	Wage earners (average number).							
Expressed in thousands.													
United States.....	1914	108	7,062	70	394	6,598	10,100	\$11,764	\$639	\$2,825	\$6,243	\$11,525	\$5,282
	1909	116	8,233	74	461	7,698	10,412	13,825	697	3,069	6,996	13,174	6,178
	1904	77	5,724	65	243	5,416	7,495	8,010	326	1,828	4,208	8,016	3,808
	1899	82	5,206	85	189	4,932	5,976	6,397	227	1,563	3,110	6,394	3,284
Massachusetts.....	1914	24	1,025	10	65	950	1,660	1,705	95	406	1,107	1,840	733
	1909	24	986	20	70	896	1,626	1,391	94	365	989	1,711	722
	1904	19	668	13	48	607	1,177	883	55	203	501	898	397
	1899	14	465	11	24	430	800	528	32	151	321	647	326
New York.....	1914	11	268	17	19	232	274	556	50	127	316	600	284
	1909	9	342	12	26	304	288	556	47	134	304	603	299
	1904	3	236	1	24	211	350	548	33	71	242	416	174
	1899	18	664	22	42	600	290	551	36	163	461	840	379
Pennsylvania.....	1914	26	2,002	16	106	1,880	1,798	3,298	189	738	1,801	3,458	1,657
	1909	33	2,477	24	148	2,305	1,775	4,105	222	818	2,406	4,232	1,826
	1904	21	1,565	27	64	1,474	1,041	2,169	85	488	1,110	2,163	1,053
	1899	24	1,528	34	50	1,444	969	1,946	65	455	938	2,026	1,088
Rhode Island.....	1914	28	3,016	16	131	2,869	5,332	5,153	206	1,265	2,387	4,394	2,007
	1909	29	3,567	8	138	3,421	5,307	6,306	221	1,456	2,578	5,191	2,613
	1904	26	2,939	13	85	2,841	4,082	3,950	130	1,000	1,996	3,945	1,949
	1899	16	2,270	13	48	2,209	3,313	2,877	68	736	1,096	2,380	1,284
All other states.....	1914	19	751	11	73	667	1,036	1,052	99	289	632	1,233	601
	1909	21	861	10	79	772	1,416	1,467	113	296	719	1,437	718
	1904	8	316	11	22	283	845	460	23	66	359	594	235
	1899	10	279	5	25	249	604	495	26	58	294	501	202

Materials.—Table 43 gives the quantities and cost of the principal materials used in the industry for 1914, 1909, and 1904.

Table 43

MATERIALS USED IN THE COTTON-SMALL-WARES INDUSTRY.

	1914	1909	1904
Total cost.....	\$6,243,027	\$6,995,966	\$4,207,655
Cotton:			
Domestic—			
Bales.....	20,192	6,331	6,676
Pounds.....	9,810,156	3,082,270	3,362,434
Cost.....	\$954,079	\$359,106	\$390,805
Silk:			
Pounds.....		100,662	23,924
Cost.....		\$350,834	\$98,617
Yarns:			
Cotton—			
Pounds.....	14,716,299	18,346,525	13,816,858
Cost.....	\$3,598,598	\$4,700,513	\$3,009,717
Silk and spun silk—			
Pounds.....	86,943	37,617	19,090
Cost.....	\$313,439	\$112,912	\$58,624
Artificial silk—			
Pounds.....	78,344	(1)	(1)
Cost.....	\$148,790	(1)	(1)
Other yarns—			
Pounds.....	326,520	480,013	389,148
Cost.....	\$199,255	\$252,385	\$66,975
Waste:			
Pounds.....	121,175	625,526	156,000
Cost.....	\$9,466	\$59,138	\$12,480
Starch, cost.....	\$5,123	\$18,681	\$15,565
Chemicals and dyestuffs, cost.....	\$75,503	\$77,337	\$36,032
All other materials, cost.....	\$938,774	\$1,065,060	\$518,840

¹ Not reported separately.

The most significant feature brought out in the table is the large increase from 1909 to 1914 in the use of raw cotton, accompanied by a decrease in the use of purchased cotton yarn. The figures for raw silk and silk yarn for 1914 are not strictly comparable with those for previous years; there was, however, only a small amount of these materials used.

Products.—Table 44 gives, for 1914, 1909, and 1904, the quantities and values of the principal products of the cotton-small-ware industry, as far as they can be shown without disclosing individual operations.

Table 44

PRODUCTS OF THE COTTON-SMALL-WARES INDUSTRY.

	1914	1909	1904
Total value.....	\$11,525,033	\$13,174,111	\$8,016,486
Tape and webbing.....	\$4,927,498	\$5,338,468	\$4,010,942
Yarns for sale:			
Pounds.....		150,428	162,000
Value.....		\$96,279	\$54,300
Waste for sale:			
Pounds.....	161,700	643,791	314,538
Value.....	\$5,059	\$15,306	\$13,020
Other cotton products, value.....	\$6,296,530	\$7,661,037	\$3,637,316
All other products, value.....	\$295,946	\$63,021	\$300,908
Yarn produced, pounds.....	19,185,556	12,637,021	12,410,268
No. 20 and under (coarse).....	(2)	1,127,514	344,135
No. 21 to No. 40 (medium).....	(2)	1,432,464	2,066,133
No. 41 to No. 60 (fine).....	(2)	77,043	.....

¹ Including that used in the further processes of manufacture.

² Figures not available.

A very much greater quantity of yarn was produced in cotton small-ware establishments for consumption therein in 1914 than in 1909. This is, of course, the natural accompaniment of the condition noted in the discussion on the preceding table regarding the large increase in the use of raw cotton and the decrease in the use of purchased cotton yarn. The figures for yarn produced in these establishments for their own use are to such a large degree estimates that no distribution of the yarn by size, which would be even approximately correct, can be made. The total pounds produced, however, are sufficiently accurate for ordinary use. The value of the most important single product of this industry, tape and webbing, decreased considerably for 1914 as compared with that for 1909. The value of the tape and webbing reported by the mills engaged primarily in the manufacture of cotton small wares constituted 95 per cent of the total value (\$5,188,806) of tape and webbing produced in all industries in 1914 and 96 per cent of the total (\$5,559,099) in 1909. "All other cotton products" include trimmings, braids, bindings, bandings, edgings, shoe and corset laces, belts, gimps, fringes, cords and tassels, candle wickings, woven labels, etc.

Equipment.—Table 45 gives the statistics for the spindles, looms, and braiding machines used in the cotton-small-ware industry for 1914, for the United States and for the three principal states.

STATE.	COTTON-SMALL-WARES INDUSTRY: 1914.		
	Spindles.	Looms.	Braiding machines.
United States.....	1 71,758	3,907	30,697
Massachusetts.....	8,934	730	8,445
Pennsylvania.....		1,215	5,024
Rhode Island.....	61,072	1,581	12,330
All other states.....	1,752	381	4,898

¹ Mills in this industry reported 29,808 spindles in 1909, 39,530 in 1904, and 42,600 in 1899.

From 1899 to 1909 there was shown a steady decrease in the number of producing spindles used in this industry, but from 1909 to 1914 there was an increase of 41,950, or 140.7 per cent. In 1914, Rhode Island reported 85.1 per cent of the total number of these spindles, while Pennsylvania reported no spindles whatever, the small-ware mills of that state having purchased all their cotton in the form of yarns. The largest number of looms and braiding machines was also reported by Rhode Island.

IMPORTS AND EXPORTS OF COTTON AND COTTON MANUFACTURES.

Table 46 shows, for each census year from 1850 to 1900, and for each year from 1905 to 1914, the production, net imports, consumption, and exports of raw cotton.

Table 46 YEAR.	QUANTITY (EQUIVALENT 500-POUND BALES).			
	Production. ¹	Net imports. ²	Consumption. ²	Exports. ²
1914.....	14,795,367	265,646	5,702,639	9,256,028
1913.....	14,313,015	225,400	5,630,835	9,199,093
1912.....	16,250,276	229,268	5,181,826	10,681,332
1911.....	12,005,688	231,191	4,516,779	8,025,991
1910.....	10,315,382	151,395	4,559,002	6,491,843
1909.....	13,587,306	165,451	5,198,963	8,889,724
1908.....	11,375,461	140,869	4,493,028	7,779,508
1907.....	13,595,498	202,733	4,974,199	8,825,236
1906.....	10,804,556	133,464	4,877,465	6,975,494
1905.....	13,679,954	130,182	4,523,208	9,057,397
1900.....	9,459,935	134,778	3,687,253	6,167,623
1890.....	7,472,511	18,334	2,518,409	4,928,921
1880.....	5,466,387	7,578	1,500,688	3,742,752
1870.....	2,409,597	3,026	796,616	1,987,708
1860.....	4,309,642	.....	845,410	3,535,373
1850.....	1,975,274	485	575,506	1,270,763

¹ Figures represent the crop grown in the preceding year. Figures from 1900 to 1914, inclusive, include "linters."

² Statistics relate to year ending Aug. 31.

Table 47 shows the imports of cotton manufactures for each decennial period from 1869 to 1899, and for each year from 1899 to 1914. Table 48 presents corresponding statistics for exports.

Table 47

IMPORTS OF COTTON MANUFACTURES, NOT INCLUDING WEARING APPAREL, KNIT GOODS, HANDKERCHIEFS, OR MUFFLERS.

YEAR ENDING JUNE 30—	Total value.	Cloths.				Embroideries, lace insertion, trimmings, lace curtains, cords, and gimps (value).	Plushes, velvets, velveteens, and other pile fabrics, except corduroys.		Thread (not on spools), yarns, warps, and warp yarn.		All other manufactures, including waste.
		Not bleached, dyed, colored, stained, painted, or printed.		Bleached, dyed, colored, stained, painted, or printed.							
		Quantity (square yards).	Value.	Quantity (square yards).	Value.		Quantity (square yards).	Value.	Quantity (pounds).	Value.		Value.
1914.....	\$61,709,159	3,323,408	\$473,686	58,309,921	\$11,372,115	\$33,865,822	4,749,044	\$2,381,486	6,417,805	\$3,877,225	\$9,738,825
1913.....	58,230,363	4,316,677	519,645	39,320,684	7,238,283	35,776,301	4,696,967	2,576,440	7,728,649	4,449,254	7,670,440
1912.....	57,895,097	3,736,612	415,676	42,973,861	7,345,053	37,094,161	4,836,578	2,443,946	6,827,046	4,028,127	6,568,134
1911.....	58,837,006	4,155,520	469,888	51,379,640	8,331,116	35,924,612	4,292,467	1,840,139	7,121,140	4,218,214	8,053,037
1910.....	57,733,120	5,642,713	585,307	56,304,388	8,455,360	36,828,162	986,952	432,524	8,879,916	4,317,788	7,113,979
1909.....	53,594,709	2,535,251	289,843	65,841,357	9,900,294	34,368,580	1,042,739	423,161	6,926,295	3,306,172	5,306,659
1908.....	55,607,356	3,609,469	344,941	75,876,055	12,079,919	33,611,010	2,764,686	1,035,536	7,036,442	3,921,111	4,614,839
1907.....	62,303,867	2,406,910	280,298	80,233,421	12,727,769	39,756,502	2,575,495	963,715	6,940,261	3,583,627	4,991,956
1906.....	54,265,085	1,878,528	216,711	72,778,701	11,719,880	34,022,469	.....	.....	5,111,644	2,598,724	5,707,301
1905.....	41,630,668	1,309,358	155,695	46,210,012	7,794,179	25,911,684	.....	.....	5,025,331	2,204,154	5,564,956
1904.....	41,820,341	1,415,512	159,102	50,032,691	8,144,383	24,848,764	.....	.....	5,060,533	2,261,924	6,406,168
1903.....	44,863,170	1,322,007	156,545	59,998,185	9,013,092	25,110,081	.....	.....	5,764,937	2,421,729	8,161,723
1902.....	37,936,159	772,011	86,386	45,440,314	6,934,393	22,449,314	.....	.....	5,006,190	1,921,748	6,544,318
1901.....	33,443,782	1,612,267	196,949	39,150,760	5,928,653	20,235,299	.....	.....	3,725,256	1,746,723	5,336,158
1900.....	35,593,693	3,061,790	357,604	61,986,063	8,156,301	19,208,165	.....	.....	5,272,491	2,098,958	5,772,665
1899.....	26,902,715	1,250,932	107,023	51,196,236	6,649,014	14,550,015	.....	.....	2,325,974	849,819	4,746,844
1898.....	20,033,005	2,577,230	203,100	27,808,959	3,696,194	9,591,943	.....	.....	1,744,852	860,703	5,681,065
1879.....	14,930,975	1,673,088	178,939	5,195,126	707,064	.....	.....	.....	.....	.....	² 13,434,552
1869.....	16,474,036	126,860,638	13,533,132	21,480,786	2,960,918	.....	.....	.....	.....	.....	³ 9,979,986

¹ Includes bleached goods.² Includes jeans, denims, and drillings to the value of \$141,066.³ Includes jeans, denims, and drillings to the value of \$991,051.

Table 48

EXPORTS OF DOMESTIC MANUFACTURES OF COTTON, NOT INCLUDING WEARING APPAREL OR KNIT GOODS.

YEAR ENDING JUNE 30—	Total value.	Cloths.						Waste, cotton.		Yarn (value).	All other manufactures (value).
		Unbleached and uncolored.		Bleached.		Colored.		Quantity (pounds).	Value.		
		Quantity (square yards).	Value.	Quantity (square yards).	Value.	Quantity (square yards).	Value.				
1914.....	\$40,699,785	199,886,679	\$13,838,005	42,104,861	\$3,392,969	172,868,473	\$11,613,653	67,250,583	\$4,566,769	\$716,036	\$6,572,353
1913.....	42,684,794	213,189,754	14,928,599	39,495,028	3,161,526	192,044,459	12,578,109	78,624,075	4,449,481	718,423	6,848,656
1912.....	41,791,095	247,131,711	16,774,304	40,848,436	3,029,897	188,798,352	11,584,797	62,157,317	3,518,255	599,593	6,284,249
1911.....	33,667,396	165,417,652	11,798,194	27,419,347	2,013,857	153,753,170	10,575,048	49,019,414	3,502,982	606,557	5,170,758
1910.....	27,672,029	152,710,558	10,098,985	19,371,650	1,351,040	137,829,096	8,521,466	54,311,226	3,129,034	463,404	4,108,100
1909.....	27,631,899	208,383,337	12,381,384	37,739,860	2,146,117	121,508,345	7,165,579	41,842,800	2,134,941	551,062	3,252,816
1908.....	20,476,279	101,833,072	6,930,007	23,896,769	1,529,057	80,264,971	5,809,019	45,784,473	2,631,595	400,600	3,176,001
1907.....	27,511,186	173,248,546	11,496,734	32,805,741	2,240,431	120,286,042	7,502,082	46,045,483	2,366,454	328,638	3,576,847
1906.....	48,605,458	594,517,108	36,252,553	(1)	(1)	116,975,946	6,929,307	37,839,284	1,852,154	365,452	3,205,992
1905.....	46,188,428	566,584,218	33,995,134	(1)	(1)	127,916,497	7,325,408	19,435,332	1,040,356	310,237	3,517,293
1904.....	19,703,293	156,060,758	9,256,922	(1)	(1)	91,319,979	5,439,277	26,258,471	1,585,765	172,286	3,249,043
1903.....	29,616,168	325,867,530	16,909,436	(1)	(1)	169,511,667	8,443,148	22,997,428	1,294,064	(2)	2,969,520
1902.....	30,017,770	358,004,521	18,501,908	(1)	(1)	146,769,292	7,359,288	14,725,201	697,653	(2)	3,458,921
1901.....	18,617,882	135,554,132	7,581,812	(1)	(1)	115,949,219	6,554,225	22,387,867	1,203,250	(2)	3,278,595
1900.....	22,400,479	264,314,474	13,229,443	(1)	(1)	87,880,515	4,839,491	12,940,380	610,120	(2)	3,721,425
1899.....	22,291,075	303,063,083	13,748,619	(1)	(1)	108,940,972	5,221,278	7,088,492	314,375	(2)	3,006,803
1889.....	9,910,841	77,596,862	5,577,401	(1)	(1)	40,856,329	2,885,373	(2)	(2)	(2)	1,448,067
1879.....	10,853,950	84,081,319	6,288,131	(1)	(1)	45,116,058	3,209,285	(2)	(2)	(2)	1,356,534
1869.....	5,874,222	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)

¹ Included in "unbleached and uncolored."² Included under "all other manufactures."³ Not reported separately.

In order to compare the statistics of imports of cotton manufactures with those of domestic production, the following table is presented. The totals for imports were compiled from the quarterly statements of imported merchandise entered for consumption, as prepared by the Bureau of Foreign and Domestic Commerce, and relate to the year ending December

31, 1914, instead of to the year ending June 30, as in the preceding table, figures for the fiscal year being the only ones available for a comparison of the imports over a period of years. The figures in Table 49 include with the "declared value" the amount of duty paid; those in the preceding tables show only the declared value.

Table 49

	COTTON MANUFACTURES: 1914.			COTTON MANUFACTURES: 1914.	
	Domestic manu- factures.	Imports for consumption.		Domestic manu- factures.	Imports for consumption.
Total value.....	\$714, 612, 452	\$72, 113, 164	Lace and lace curtains, value.....	\$13, 479, 791	\$42, 658, 252
Cloths:			Cotton waste:		
Not bleached, etc.—			Pounds.....	318, 169, 451	19, 247, 886
Square yards.....	5, 083, 391, 620	3, 382, 390	Value.....	\$14, 448, 976	\$981, 512
Value.....	\$327, 949, 850	\$534, 219	Yarn, value.....	\$132, 912, 513	\$4, 793, 535
Bleached—			Thread, value.....	\$22, 917, 099	\$2, 604, 988
Square yards.....	206, 910, 987	15, 617, 374	Batting and wadding:		
Value.....	\$19, 083, 093	\$3, 387, 472	Pounds.....	10, 319, 465	76, 657
Colored, dyed, or printed—			Value.....	\$1, 383, 977	\$9, 675
Square yards.....	1, 187, 560, 640	39, 551, 027	Cotton mixed, filled, or coated, and waterproof		
Value.....	\$107, 376, 130	\$8, 652, 852	cloth:		
Tapestries (piece goods, curtains, etc.), value....	\$5, 848, 944	\$2, 266, 139	Square yards.....	(1)	5, 450, 919
Pile fabrics:			Value.....	(1)	\$1, 162, 594
Velvets, corduroys, plushes, etc., value.....	\$9, 467, 324	\$3, 076, 090	All other cloths, value.....	(1)	\$483, 548
Toweling and terry weaves, value.....	\$9, 805, 232	\$218, 439	All other cotton manufactures, value.....	\$49, 939, 523	\$1, 283, 849

1 Included in "all other cotton manufactures."

DETAIL STATE TABLES.

Table 50 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for cotton manu-

factures as a whole. Table 51 presents, for 1914, by states, more detailed statistics for cotton manufactures as a whole and for each of the industries comprising it.

Alabama	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Alaska	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Arizona	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Arkansas	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
California	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Colorado	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Connecticut	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Delaware	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
District of Columbia	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Florida	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Georgia	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Idaho	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Illinois	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Indiana	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Iowa	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Kansas	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Kentucky	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Louisiana	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Maine	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Maryland	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Massachusetts	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Michigan	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Minnesota	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Mississippi	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Missouri	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Montana	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Nebraska	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Nevada	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
New Hampshire	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
New Jersey	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
New Mexico	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
New York	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
North Carolina	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
North Dakota	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Ohio	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Oklahoma	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Oregon	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Pennsylvania	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Rhode Island	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
South Carolina	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
South Dakota	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Tennessee	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Texas	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Vermont	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Virginia	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Washington	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
West Virginia	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Wisconsin	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products
Wyoming	1914	1909	1904	Establishments	Wage earners	Horsepower	Wages	Cost of materials	Value of products

Included in "unclassified and unclassified"

COTTON MANUFACTURES.

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TABLE 50.—COMPARATIVE SUMMARY, BY STATES: 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States....	1914	1,328	393,404	1,585,953	\$152,423	\$443,523	\$701,301	New Jersey.....	1914	30	7,394	20,987	\$3,287	\$10,116	\$16,782
	1909	1,324	378,880	1,296,517	132,859	371,009	628,392		1909	26	6,638	17,288	2,577	8,565	13,729
	1904	1,154	315,874	986,604	96,206	286,255	450,468		1904	17	5,362	15,518	2,022	5,143	8,579
Alabama.....	1914	57	13,697	48,278	4,206	17,779	25,623	New York.....	1914	51	9,127	38,922	4,240	11,653	18,465
	1909	51	12,731	42,637	3,454	14,373	22,212		1909	47	10,663	33,354	4,166	11,726	20,352
	1904	46	11,480	27,505	2,458	12,011	16,760		1904	33	8,800	25,812	3,071	8,645	13,434
Connecticut.....	1914	50	15,466	65,629	6,982	17,335	30,809	North Carolina.....	1914	293	53,703	245,600	15,796	62,338	90,744
	1909	52	14,360	58,137	5,666	11,960	24,232		1909	281	47,231	164,609	12,131	48,688	72,680
	1904	52	13,111	47,950	4,653	10,203	18,425		1904	212	36,356	92,215	7,504	33,025	47,254
Georgia.....	1914	118	30,719	112,626	8,119	41,210	59,982	Ohio.....	1914	6	478	598	226	361	912
	1909	116	27,803	92,979	7,721	32,049	48,037		1909	4	177	446	52	234	395
	1904	103	24,130	77,435	5,313	23,832	35,174		1904	3	107	365	27	89	154
Illinois.....	1914	7	1,356	3,759	630	1,513	2,779	Pennsylvania.....	1914	155	14,640	23,411	6,676	17,564	32,400
	1909	5	1,319	2,020	522	1,102	2,111		1909	175	16,293	24,589	7,034	18,757	33,917
	1904	3	521	1,666	187	295	613		1904	165	15,263	22,611	5,943	14,322	26,300
Indiana.....	1914	14	961	4,015	365	1,133	1,797	Rhode Island.....	1914	102	29,483	110,289	13,785	28,756	49,719
	1909	7	1,582	5,315	478	1,670	2,502		1909	106	28,786	95,278	11,797	25,401	50,313
	1904	5	1,174	5,250	302	1,140	1,484		1904	99	24,758	75,607	8,890	19,666	34,573
Kentucky.....	1914	4	1,158	3,725	359	1,330	1,991	South Carolina.....	1914	148	46,448	231,220	14,436	53,889	78,446
	1909	4	1,044	3,159	307	1,188	1,902		1909	147	45,454	187,716	11,661	41,303	65,930
	1904	4	1,031	3,085	243	1,165	1,565		1904	127	37,271	133,397	7,702	34,308	49,438
Maine.....	1914	15	13,834	64,404	5,775	13,033	22,122	Tennessee.....	1914	15	3,403	12,311	1,046	4,554	6,486
	1909	16	14,634	53,823	5,718	11,390	21,932		1909	17	3,078	11,129	857	3,344	5,201
	1904	15	12,382	37,236	4,037	9,173	15,406		1904	16	2,294	8,301	531	2,241	3,561
Maryland.....	1914	13	3,424	16,975	1,239	4,452	6,791	Texas.....	1914	12	1,875	5,948	675	2,643	3,755
	1909	16	3,966	13,128	1,139	4,012	5,522		1909	13	1,590	4,835	501	1,793	2,815
	1904	12	3,993	11,995	934	3,873	5,245		1904	13	993	3,452	270	1,018	1,587
Massachusetts.....	1914	189	113,559	438,083	50,706	119,834	197,322	Virginia.....	1914	9	6,310	34,220	2,174	6,057	10,216
	1909	182	108,914	362,043	45,117	105,157	186,462		1909	10	5,057	19,750	1,480	4,699	7,490
	1904	161	88,640	296,244	32,555	80,268	130,069		1904	10	3,456	9,340	884	2,802	4,484
Mississippi.....	1914	11	1,989	5,510	580	1,812	2,789	All other states.....	1914	19	2,711	12,057	1,076	3,371	5,578
	1909	14	2,645	8,045	695	2,042	3,102		1909	14	2,625	12,271	848	2,432	3,954
	1904	14	2,161	5,867	518	1,649	2,463		1904	19	2,860	10,213	789	2,890	4,359
New Hampshire.....	1914	20	21,669	87,386	10,045	22,790	35,793								
	1909	21	22,290	83,966	8,938	19,124	33,602								
	1904	25	19,731	75,540	7,373	18,497	29,541								

¹ Excludes statistics for one establishment, to avoid disclosure of individual operations. These are included in "all other states."

MANUFACTURES.

TABLE 51.—DETAIL STATISTICS FOR COTTON MANUFACTURES, BY

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

COTTON MANUFACTURES.

1	United States.....	1,328	403,911	489	4,564	4,062	1,392	393,404	Ja 404,647	Au 382,702	402,054	214,746	153,519	19,255	14,534	\$399,764,682
2	Alabama.....	57	14,096	1	207	162	29	13,697	Ap 14,174	Au 13,072	14,503	7,433	4,642	1,313	1,115	33,471,108
3	Connecticut.....	50	16,086	23	185	261	151	15,466	Se 15,658	No 15,279	15,504	8,731	6,102	312	359	45,926,628
4	Georgia ³	118	31,486	9	398	301	59	30,719	Ja 31,763	Au 29,259	34,226	18,327	9,514	4,898	1,487	70,705,809
5	Illinois.....	7	1,448	2	35	34	21	1,356	Ap 1,629	De 1,076	1,389	460	877	27	25	2,182,213
6	Indiana ³	4	990	.....	15	11	3	961	Ja 1,063	Oc 873	1,028	425	533	18	52	1,696,840
7	Kentucky.....	4	1,180	1	10	6	5	1,158	Mh 1,188	Jy 1,131	1,146	507	630	6	3	1,708,240
8	Maine.....	15	13,979	.....	74	61	10	13,834	Fe 14,364	De 13,272	13,898	7,242	6,221	232	203	31,289,577
9	Maryland.....	13	3,589	.....	67	76	22	3,424	De 3,804	Jy 3,204	3,847	1,927	1,655	117	148	8,731,698
10	Massachusetts.....	189	115,684	35	901	808	331	113,559	Ja 118,455	Au 109,008	114,841	59,663	50,658	2,389	2,131	256,858,720
11	Michigan.....	3	42	2	3	3	31	31	Ja ⁴ 32	Se ⁴ 30	33	9	23	1	.....	53,811
12	Mississippi.....	11	2,059	.....	42	23	5	1,989	Fe 2,053	Au 1,902	2,042	1,026	822	124	70	3,837,231
13	New Hampshire.....	20	21,958	4	63	175	47	21,669	Fe 21,930	Oc 21,185	21,349	12,006	9,223	54	66	33,009,169
14	New Jersey.....	30	7,695	16	91	150	44	7,394	My 7,672	No 7,082	7,391	3,314	3,665	144	268	21,459,981
15	New York.....	51	9,511	35	125	154	70	9,127	Ja 10,479	Se 8,045	9,240	5,204	3,873	122	41	24,426,379
16	North Carolina.....	293	55,206	33	953	401	116	53,703	Ja 54,680	Se 52,451	54,218	29,994	17,005	3,914	3,305	80,065,283
17	Ohio.....	6	518	1	14	17	8	478	Mh 505	Je 438	463	187	276	.....	.....	940,465
18	Pennsylvania.....	155	15,785	136	364	481	164	14,640	My 15,264	No 13,971	14,606	6,562	7,023	372	649	34,421,878
19	Rhode Island.....	102	30,271	37	293	323	135	29,483	Mh 30,306	No 28,372	29,576	15,185	12,735	768	888	77,015,844
20	South Carolina.....	148	47,730	151	572	468	91	46,448	Ja 47,772	Se 45,031	47,554	27,735	12,561	3,937	3,321	134,430,465
21	Tennessee.....	15	3,484	.....	44	31	6	3,403	Oc 3,473	Mh 3,334	3,454	1,721	1,374	192	167	7,142,847
22	Texas.....	12	1,933	.....	34	18	6	1,875	De 1,960	Fe 1,811	1,981	1,274	641	37	29	5,252,899
23	Vermont.....	4	1,025	.....	18	10	5	992	De 1,025	Ja 939	1,038	632	400	5	1	2,570,201
24	Virginia.....	9	6,379	.....	23	44	2	6,310	De 6,713	Au 5,857	6,817	4,431	2,088	169	129	18,437,898
25	All other states ⁵	12	1,777	3	33	44	9	1,688	.....	.....	1,910	751	978	104	77	4,129,498

COTTON GOODS.

1	United States.....	1,179	388,726	409	4,234	3,553	1,164	379,366	Ja 389,980	Au 369,138	388,297	209,186	146,061	19,012	14,038	\$867,043,678
2	Alabama.....	57	14,096	1	207	162	29	13,697	Ap 14,174	Au 13,072	14,503	7,433	4,642	1,313	1,115	33,471,108
3	Connecticut.....	44	15,661	19	172	244	133	15,093	My 15,277	No 14,856	15,053	8,531	5,871	309	342	44,959,508
4	Georgia.....	118	31,486	9	398	301	59	30,719	Ja 31,763	Au 29,259	34,226	18,327	9,514	4,898	1,487	70,705,809
5	Indiana.....	4	990	.....	15	11	3	961	Ja 1,063	Oc 873	1,028	425	533	18	52	1,696,840
6	Kentucky.....	4	1,180	1	10	6	5	1,158	Mh 1,188	Jy 1,131	1,146	507	630	6	3	1,708,240
7	Maine.....	15	13,979	.....	74	61	10	13,834	Fe 14,364	De 13,272	13,898	7,242	6,221	232	203	31,289,577
8	Maryland.....	13	3,589	.....	67	76	22	3,424	De 3,804	Jy 3,204	3,847	1,927	1,655	117	148	8,731,698
9	Massachusetts.....	165	114,639	25	864	798	363	112,609	Ja 117,496	Au 108,096	113,902	59,310	50,160	2,338	2,094	255,153,899
10	Michigan.....	3	42	2	3	3	31	31	Ja 32	Se ⁴ 30	33	9	23	1	.....	53,811
11	Mississippi.....	11	2,059	.....	42	23	5	1,989	Fe 2,053	Au 1,902	2,042	1,026	822	124	70	3,837,231
12	New Hampshire.....	16	21,870	3	59	173	46	21,589	Fe 21,863	Oc 21,086	21,245	11,046	9,179	54	66	32,865,897
13	New Jersey.....	21	7,409	9	85	129	42	7,144	My 7,432	No 6,824	7,126	3,169	3,557	138	262	20,885,548
14	New York.....	30	8,061	12	96	110	43	7,800	Ja 9,112	Se 6,759	7,920	4,482	3,302	115	21	20,334,471
15	North Carolina.....	293	55,206	33	953	401	116	53,703	Ja 54,680	Se 52,451	54,218	29,994	17,005	3,914	3,305	80,065,283
16	Pennsylvania.....	116	9,813	117	238	208	92	9,158	My 9,581	Fe 8,895	9,352	4,704	4,011	253	384	18,719,177
17	Rhode Island.....	65	25,803	21	221	231	73	25,257	Ap 25,798	No 24,505	25,430	13,363	10,595	721	751	68,741,060
18	South Carolina.....	148	47,730	151	572	468	91	46,448	Ja 47,772	Se 45,031	47,554	27,735	12,561	3,937	3,321	134,430,465
19	Tennessee.....	15	3,484	.....	44	31	6	3,403	Oc 3,473	Mh 3,334	3,454	1,721	1,374	192	167	7,142,847
20	Texas.....	12	1,933	.....	34	18	6	1,875	De 1,960	Fe 1,811	1,981	1,274	641	37	29	5,252,899
21	Vermont.....	4	1,025	.....	18	10	5	992	De 1,025	Ja 939	1,038	632	400	5	1	2,570,201
22	Virginia.....	9	6,379	.....	23	44	2	6,310	De 6,713	Au 5,857	6,817	4,431	2,088	169	129	18,437,898
23	All other states ⁶	16	2,272	6	39	45	10	2,172	.....	.....	2,484	998	1,277	121	88	5,490,221

COTTON LACE.

1	United States.....	41	8,123	10	162	380	131	7,440	Mh 8,182	De 6,612	7,306	3,179	3,779	135	213	\$20,956,509
2	New York.....	10	1,182	6	22	38	21	1,095	Mh 1,184	Jy 1,008	1,088	627	435	6	20	3,036,225
3	Pennsylvania.....	13	3,970	3	79	232	54	3,602	Fe 3,993	No 3,148	3,458	1,373	1,855	98	132	12,404,430
4	Rhode Island.....	9	1,452	.....	20	47	28	1,357	Mh 1,587	De 885	1,341	620	643	27	51	3,122,216
5	All other states ⁷	9	1,519	1	41	63	28	1,386	.....	.....	1,419	559	846	4	10	2,393,638

COTTON SMALL WARES.

1	United States.....	108	7,062	70	168	129	97	6,598	Ap 6,896	De 6,344	6,451	2,381	3,679	108	283	\$11,764,495
2	Massachusetts.....	24	1,025	10	37	10	18	950	Mh 1,015	De 874	939	353	498	51	37	1,704,831
3	New York.....	11	263	17	7	6	6	232	Fe 259	Au 189	232	95	136	1	.....	555,683
4	Pennsylvania.....	26	2,002	16	47	41	18	1,880	Ap 1,972	De 1,767	1,796	485	1,157	21	133	3,298,271
5	Rhode Island.....	28	3,016	16	52	45	34	2,869	Ap 2,989	Au 2,779	2,805	1,202	1,497	20	86	5,152,568
6	All other states ⁸	19	751	11	25	27	21	667	.....	.....	679	246	391	15	27	1,053,142

¹ Owned power only.² Includes rented power, other than electric.³ Excludes statistics for one establishment, to avoid disclosure of individual operations. These are included in "all other states".⁴ Same number reported for one or more other months.⁵ All other states embrace: Arkansas, 2 establishments; Delaware, 1; Louisiana, 2; Missouri, 3; Wisconsin, 2; and 2 establishments in certain states statistics for which can not be shown separately without disclosing individual operations.

COTTON MANUFACTURES.

43

INDUSTRIES AND STATES: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal-combustion engines. ²	Water wheels and motors. ¹	Electric (rent-d).	

COTTON MANUFACTURES.

\$11,919,839	\$5,480,161	\$152,422,599	\$1,614,636	\$552,030	\$7,857,807	\$425,661,775	\$17,860,740	\$701,300,933	\$257,778,418	1,585,953	1,011,303	7,576	314,219	252,864	260,039	1
436,585	154,462	4,206,039	155	8,521	186,863	17,216,356	562,714	25,622,583	7,843,513	48,278	34,704	20	7,721	5,833	3,173	2
633,427	400,951	6,982,144	388,255	48,229	286,768	16,800,362	534,516	30,808,918	13,474,040	65,629	37,954	1,427	25,107	1,141	6,922	3
896,253	347,682	8,118,917	55,772	1,290	487,783	39,831,150	1,378,424	59,982,008	18,772,434	112,626	67,803	4	21,986	22,833	11,626	4
69,760	45,585	629,807	20,780	14,338	1,464,523	48,012	2,778,706	1,266,171	3,759	3,759	3,729	-----	-----	30	629	5
32,420	16,342	364,607	-----	-----	16,476	1,093,098	40,462	1,796,581	663,021	4,015	4,015	-----	-----	-----	1,571	6
27,900	10,133	359,460	368	1,200	21,389	1,301,189	28,798	1,991,346	661,359	3,725	3,550	-----	175	-----	5	7
258,961	88,181	5,775,092	224,608	915	325,975	12,601,554	431,415	22,121,711	9,088,742	64,404	26,923	-----	34,084	3,397	15,323	8
145,894	77,671	1,239,282	50,486	49,603	49,603	4,322,267	130,058	6,790,935	2,338,610	16,975	9,708	-----	2,662	4,605	1,110	9
3,084,402	1,230,918	50,706,040	177,250	31,564	3,380,867	114,849,907	4,984,427	197,322,111	77,487,777	438,083	354,500	2,026	64,147	17,410	98,166	10
2,100	3,492	13,863	-----	3,650	575	113,047	1,628	148,665	33,990	80	-----	8	-----	72	-----	11
63,131	31,874	580,491	1,000	-----	19,991	1,733,739	78,261	2,789,007	977,007	5,510	5,364	11	-----	135	627	12
374,091	278,499	10,045,250	-----	2,545	388,427	21,984,536	805,053	35,793,044	13,003,455	87,386	51,201	300	32,534	3,351	31,293	13
318,711	197,872	3,286,788	13,881	16,488	120,921	9,826,768	288,766	16,782,164	6,666,630	20,987	17,728	107	640	2,512	1,839	14
375,982	222,125	4,240,422	30,342	30,835	205,812	11,185,087	468,351	18,464,811	6,811,373	38,922	24,245	165	11,690	2,822	9,511	15
1,601,139	401,731	15,795,742	205,464	13,994	667,590	59,241,752	3,090,670	90,743,683	28,405,261	245,600	108,577	555	30,913	108,555	15,431	16
31,660	39,887	226,412	-----	4,744	9,226	354,364	7,001	912,189	550,824	598	405	128	40	25	120	17
942,118	856,561	6,676,104	352,737	278,805	98,973	17,132,266	431,262	32,400,446	14,836,918	23,411	19,276	2,081	231	1,823	3,044	18
970,300	468,438	13,784,568	119,170	32,239	583,428	27,587,323	1,168,986	49,718,837	20,962,528	110,289	79,885	435	24,206	5,763	21,254	19
1,285,675	399,106	14,436,181	36,952	480	779,228	51,111,072	2,778,082	78,446,145	24,556,991	231,220	121,850	200	40,571	68,599	20,770	20
93,268	35,584	1,045,920	5,682	17	34,197	4,412,106	141,963	6,485,640	1,931,571	12,311	9,428	-----	225	2,658	687	21
65,816	20,562	674,724	2,000	-----	29,844	2,515,336	127,852	3,754,785	1,111,597	5,948	5,445	-----	-----	503	30	22
34,368	9,345	450,152	-----	-----	15,484	891,442	60,819	1,558,974	606,713	4,933	2,613	-----	1,350	970	3	23
119,800	89,142	2,174,057	-----	-----	111,723	5,864,500	192,801	10,216,185	4,158,884	34,220	18,210	-----	15,277	733	15,736	24
56,078	54,018	610,537	1,000	4,748	22,326	2,228,031	74,419	3,871,459	1,569,009	7,044	4,190	100	660	2,094	1,179	25

COTTON GOODS.

\$10,962,344	\$4,587,787	\$146,129,628	\$1,483,770	\$405,753	\$7,690,276	\$414,137,808	\$17,461,732	\$676,569,115	\$244,966,575	1,566,757	998,089	6,525	312,123	250,020	255,539	1
436,585	154,462	4,206,039	155	8,521	186,863	17,216,356	562,714	25,622,583	7,843,513	48,278	34,704	20	7,721	5,833	3,173	2
583,972	376,628	6,801,030	388,236	42,709	281,543	16,611,661	523,384	30,191,480	13,056,435	64,655	37,954	1,427	24,315	959	6,887	3
896,253	347,682	8,118,917	55,772	1,290	487,783	39,831,150	1,378,424	59,982,008	18,772,434	112,626	67,803	4	21,986	22,833	11,626	4
32,420	16,342	364,607	-----	-----	16,476	1,093,098	40,462	1,796,581	663,021	4,015	4,015	-----	-----	-----	1,571	5
27,900	10,133	359,460	368	1,200	21,389	1,301,189	28,798	1,991,346	661,359	3,725	3,550	-----	175	-----	5	6
258,961	88,181	5,775,092	224,608	915	325,975	12,601,554	431,415	22,121,711	9,088,742	64,404	26,923	-----	34,084	3,397	15,323	7
145,894	77,671	1,239,282	50,486	49,603	49,603	4,322,267	130,058	6,790,935	2,338,610	16,975	9,708	-----	2,662	4,605	1,110	8
3,012,919	1,207,136	50,299,559	158,943	22,538	3,364,607	113,786,230	4,941,022	195,481,626	76,754,374	436,423	354,063	1,834	63,921	16,605	98,166	9
2,100	3,492	13,863	-----	3,650	575	113,047	1,628	148,665	33,990	80	-----	8	-----	72	-----	10
63,131	31,874	580,491	1,000	-----	19,991	1,733,739	78,261	2,789,007	977,007	5,510	5,364	11	-----	135	627	11
369,435	277,305	10,006,112	-----	-----	387,959	21,937,191	803,349	35,679,660	12,939,120	87,235	51,151	300	32,469	3,315	31,283	12
306,751	167,559	3,149,017	12,225	9,206	118,906	9,671,836	279,136	16,317,490	6,366,518	20,617	17,561	28	640	2,388	1,839	13
257,808	157,115	3,575,023	30,342	18,310	192,627	10,002,667	434,249	15,671,038	5,234,122	37,220	22,835	110	11,650	2,625	8,701	14
1,601,139	401,731	15,795,742	205,464	13,994	667,590	59,241,752	3,090,670	90,743,683	28,405,261	245,600	108,577	555	30,913	108,555	15,431	15
539,795	367,877	4,409,928	271,469	218,323	48,215	12,425,039	299,184	22,408,007	9,683,784	16,870	13,571	1,751	231	1,317	712	16
760,536	293,224	11,829,890	89,554	9,570	517,969	24,505,961	1,031,838	43,267,632	17,729,863	103,642	75,265	134	23,333	4,910	20,570	17
1,285,675	399,106	14,436,181	36,952	480	779,228	51,111,072	2,778,082	78,446,145	24,556,991	231,220	121,850	200	40,571	68,599	20,770	18
93,268	35,584	1,045,920	5,682	17	34,197	4,412,106	141,963	6,485,640	1,931,571	12,311	9,428	-----	225	2,658	687	19
65,816	20,562	674,724	2,000	-----	29,844	2,515,336	127,852	3,754,785	1,111,597	5,948	5,445	-----	-----	503	30	20
34,368	9,345	450,152	-----	-----	15,484	891,442	60,819	1,558,974	606,713	4,933	2,613	-----	1,350	970	3	21
119,800	89,142	2,174,057	-----	-----	111,723	5,864,500	192,801	10,216,185	4,158,884	34,220	18,210	-----	15,277	733	15,736	22
67,818	55,636	824,542	1,000	4,544	31,729	2,948,615	102,623	5,103,904	2,052,666	10,250	7,499	143	600	2,008	1,289	23

COTTON LACE.

\$333,548	\$677,428	\$3,468,081	\$47,896	\$30,632	\$87,775	\$5,498,146	\$178,802	\$13,206,785	\$7,529,837	9,096	6,594	315	972	1,215	3,521	1
81,849	51,542	538,202	-----	7,165	10,049	874,748	25,933	2,194,088	1,293,407	1,428	1,270	16	40	102	810	2
278,504	423,891	1,528,155	18,411	5,396	41,957	2,946,693	91,243	6,534,485	3,496,549	4,743	4,374	49	-----	320	2,020	3
76,980	101,822	689,336	29,466	10,991	19,599	800,125	31,216	2,056,962	1,225,621	1,315	420	250	120	525	126	4
96,215	100,170	712,388	19	7,080	16,170	876,580	30,410	2,421,250	1,514,260	1,610	530	-----	812	268	565	5

COTTON SMALL WARES.

\$423,947	\$214,946	\$2,824,890	\$82,970	\$115,645	\$79,756	\$6,025,821	\$217,206	\$11,525,033	\$5,282,006	10,100	6,620	727	1,124	1,629	979	1
71,483	23,782	406,481	18,307	9,026	16,260	1,063,677	43,405	1,840,485	733,403	1,660	437	192	226	805	-----	2
36,325	13,468	127,197	-----	5,360	3,136	370,672	8,169	5,597,685	283,844	274	140	39	-----	95	-----	3
123,819	64,790	738,021	62,857	55,086	8,801	1,707,534	40,835	3,457,954	1,656,585	1,798	1,331	281	-----	186	312	4
132,784	73,392	1,265,342	150	12,178	45,860	2,281,237	105,932	4,394,213	2,007,044	5,332	4,200	51	753	328	558	5
59,536	39,514	287,849	1,656	33,995	5,699	612,701	18,865	1,232,696	601,130	1,036	512	164	145	215	109	6

* All other states embrace: Arkansas, 2 establishments; Delaware, 1; Illinois, 4; Louisiana, 2; Missouri, 2; Ohio, 3; and Wisconsin, 2.

* All other states embrace: Connecticut, 3 establishments; Illinois, 1; Missouri, 1; New Hampshire, 1; New Jersey, 1; and Ohio, 1.

* All other states embrace: Connecticut, 3 establishments; Georgia, 1; Illinois, 2; Indiana, 1; New Hampshire, 2; New Jersey, 8; and Ohio,

WOOL MANUFACTURES.

By CLYTUS A. FREEMAN.¹

SUMMARY AND ANALYSIS.

Scope of the report.—This report presents statistics for establishments engaged in the manufacture of (1) woollen (carded wool) goods, (2) worsted (combed wool) goods, (3) carpets and rugs, other than rag, (4) felt goods, and (5) wool-felt hats. At the census of 1904, and at prior censuses, this same grouping was followed, but in 1909, the figures for the "carpet and rug" industry were published separately from those for "woollen, worsted, and felt goods, and wool-felt hats." Statistics for the five industries combined are herein presented, many of the tables giving separate figures for each industry as well. Wool pulling, wool scouring, and the recovery of wool from rags, tailors' clippings, and mill waste, commonly known as shoddy, represent processes in the manufacture of wool, rather than the production of finished goods, and statistics for these industries are presented separately.

Of the five groups of industries engaged in the manufacture of textile fabrics—cotton, wool, and silk manufactures, hosiery and knit goods, and cordage and twine, jute goods, and linen goods—wool manufactures ranked second, the value of its products representing 26.4 per cent of the total value of products of the five groups combined. Wool manufactures occupied a less important place among the groups of textile industries in 1914 than at previous censuses, however, the value of its products being less than in 1909, while the value of the products of each of the other groups was much greater than the five years before.

Summary for the five industries in this group: 1914.—Table 1 presents for 1914 a summary of wool manufactures as a whole and of each of the industries which forms a part of the group, together with the per cent of the total contributed by each of the industries.

Table 1	WOOL MANUFACTURES: 1914.										
	Total for the industry.	Establishments engaged primarily in manufacturing—					Per cent of total contributed by establishments engaged primarily in manufacturing—				
		Woollen goods.	Worsted goods.	Carpets and rugs.	Felt goods.	Wool-felt hats.	Woollen goods.	Worsted goods.	Carpets and rugs.	Felt goods.	Wool-felt hats.
Number of establishments.....	979	501	298	97	53	30	51.2	30.4	9.9	5.4	3.1
Persons engaged.....	203,716	51,631	113,059	33,101	4,553	1,372	25.3	55.5	16.2	2.2	0.7
Proprietors and firm members.....	578	316	141	72	11	38	54.7	24.4	12.5	1.9	6.5
Salaried employees.....	7,853	2,150	3,391	1,720	507	85	27.3	43.2	21.9	6.5	1.1
Wage earners (average number).....	195,285	49,165	109,527	31,309	4,035	1,249	25.2	56.1	16.0	2.1	0.6
Primary horsepower.....	442,330	134,597	246,623	43,963	14,056	3,091	30.4	55.8	9.9	3.2	0.7
Capital.....	\$497,699,293	\$107,871,742	\$281,780,836	\$85,153,828	\$20,284,048	\$2,608,839	21.7	56.6	17.1	4.1	0.5
Salaries and wages.....	108,009,668	27,726,892	58,772,968	17,589,293	3,173,384	747,131	25.7	54.4	16.3	2.9	0.7
Salaries.....	14,651,788	3,522,413	7,024,003	2,873,678	1,084,141	147,553	24.0	47.9	19.6	7.4	1.0
Wages.....	93,357,880	24,204,479	51,748,965	14,715,615	2,089,243	599,578	25.9	55.4	15.8	2.2	0.6
Paid for contract work.....	2,456,260	395,915	1,714,838	341,286	4,121	100	16.1	69.8	13.9	0.2	(¹)
Rent and taxes (including internal revenue).....	3,922,866	937,255	2,306,957	508,149	125,974	44,531	23.9	58.8	13.0	3.2	1.1
Cost of materials.....	298,063,498	63,696,042	182,800,624	42,280,223	8,308,270	978,339	21.4	61.3	14.2	2.8	0.3
Value of products.....	461,249,813	103,815,905	275,668,474	69,128,185	13,692,765	1,944,484	22.4	59.4	14.9	2.9	0.4
Value added by manufacture (value of products less cost of materials).....	166,186,315	40,119,863	92,867,850	26,847,962	5,384,495	966,145	24.1	55.9	16.2	3.2	0.6

¹ Less than one-tenth of 1 per cent.

The five branches of wool manufactures are coordinate—that is, no industry of the group is engaged primarily in preparing materials for any other industry. There are in these industries, as in many other lines of manufacture, duplications in the cost of materials and value of products. This is due to the fact that some establishments in the industries sell to other wool-manufacturing establishments such partly manufactured products as tops and yarns, and also waste and noils which are rejections from the manufacture of tops and yarns but good material for use in the

manufacture of carded-wool goods, including felts and wool-felt hats. The value of such products, if reported as sold, is not only included in the value of products of the establishments reporting them as products, but also enters into the value of products of the establishments using them as materials; while the cost of the materials from which they were made con-

¹ The suggestions and advice of Mr. Wm. J. Battison, of the National Association of Wool Manufacturers, Boston, Mass., were of much assistance in the preparation of this report and are hereby gratefully acknowledged.

stitutes part of the cost of materials of the establishments manufacturing them and also enters into the cost of materials of the establishments using these products as materials for further manufacture.¹

Comparison with earlier censuses.—Table 2 summarizes the statistics of establishments engaged in wool manufactures for each census from 1869 to 1914, and gives percentages of increase.

Table 2

WOOL MANUFACTURES.

	Number or amount.							Per cent of increase. ¹					
	1914	1909	1904	1899	1889	1879	1869	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	979	1,124	1,213	1,414	1,693	2,330	3,208	-12.9	-7.3	-14.2	-16.5	-27.3	-27.4
Persons engaged.....	203,716	209,882	186,699	164,713	(2)	(2)	(2)	-2.9	12.4	13.3	.....	.....	.....
Proprietors and firm members.....	578	866	1,107	1,110	(2)	(2)	(2)	-33.3	-21.8	-0.3	.....	.....	.....
Salaried employees.....	7,853	6,987	5,616	4,495	(2)	(2)	(2)	12.4	24.4	24.9	.....	.....	.....
Wage earners (average number).....	195,285	202,029	179,976	159,108	154,271	132,672	105,071	-3.3	12.3	13.1	(2)	(2)	(3)
Primary horsepower.....	442,330	400,762	322,914	271,565	210,642	140,058	(2)	10.4	24.1	18.9	28.9	50.4	.....
Capital.....	\$497,699,293	\$506,205,584	\$370,861,691	\$310,179,749	\$245,886,743	\$143,512,278	\$121,451,059	-1.7	36.5	19.6	26.1	71.3	18.2
Salaries and wages.....	108,009,668	100,268,868	78,974,869	64,389,312	58,397,470	40,687,612	35,928,150	7.7	27.0	22.7	10.3	43.5	13.2
Salaries.....	14,651,788	12,306,199	8,177,345	6,455,495	(2)	(2)	(2)	19.1	50.5	26.7	.....	.....	.....
Wages.....	93,357,880	87,962,669	70,797,524	57,933,817	(2)	(2)	(2)	6.1	24.2	22.2	.....	.....	.....
Paid for contract work.....	2,456,260	3,629,257	1,220,708	1,749,222	(2)	(2)	(2)	-32.3	197.3	-30.2	.....	.....	.....
Rent and taxes (including internal revenue).....	3,922,866	2,925,922	4,235,150	4,200,374	(2)	(2)	(2)	34.1	24.1	17.4	.....	.....	.....
Cost of materials.....	298,063,498	322,441,043	242,561,096	181,159,127	167,233,987	149,160,600	124,318,792	-7.6	32.9	33.9	8.3	12.1	20.0
Value of products.....	464,249,813	507,166,710	380,934,003	296,990,484	270,527,511	238,085,686	199,257,262	-8.5	33.1	28.3	9.8	13.6	19.5
Value added by manufacture (value of products less cost of materials).....	166,186,315	184,725,667	138,372,907	115,831,357	103,293,524	88,925,086	74,938,470	-10.0	33.5	19.5	12.1	16.2	18.7

¹ A minus sign (—) denotes decrease.

² Figures not available.

³ Figures not strictly comparable.

⁴ Exclusive of internal revenue.

The number of establishments in wool manufactures has steadily declined since 1869, when 3,208

were reported. This decrease is partially due to the consolidation of establishments, resulting in the

¹ The total value of woolen, worsted, and merino yarn produced for sale (\$84,090,269) exceeded by a large margin the cost of such yarn purchased for use as material (\$56,456,572). Some imported wool yarn and some which was spun on commission for merchants and dealers was undoubtedly included in the purchased yarn used by wool manufacturers, so that, while the maximum possible duplication due to the use of purchased yarn would be as much as \$56,456,572, the actual duplication was probably somewhat less. This duplication results chiefly from two circumstances. To the extent that carpet and rug factories buy their woolen and worsted yarn from spinning mills classed in the woolen or worsted industries, there is a duplication in the cost of materials and value of products for the group as a whole. Within the woolen-goods and worsted-goods industries, moreover, and particularly in the latter, there is duplication by reason of the use of the yarn produced in some mills as materials for other mills.

A larger amount of wool waste and noils was reported among the products than among the materials; so it may be assumed that the cost of the waste and noils used as a material in wool manufactures (\$10,616,633), represents the duplication in this item. The production and consumption of tops also involved some duplication. The value of the tops reported as made for sale (\$4,926,929) represented only a small part of the cost of the purchased tops used during the year (\$16,707,322). This apparent discrepancy can be accounted for by the imports and by the tops spun on commission for merchants and dealers. The duplication involved would, therefore, amount only to the value of the tops made for sale.

The figures for contract work shown in Table 1 amount to \$2,456,260, while Table 30 shows that the receipts by wool-manufacturing establishments from work done for others amounted to \$3,493,383. A part of the payments by wool-manufacturing establishments for contract work was made to dyeing and finishing establishments for which statistics are shown in a separate report, and a part of the receipts reported by wool-manufacturing establishments for work done for others came from establishments in other industries, or from dealers and merchants who made no report to the census. A certain amount of duplication results from the fact that some spinning and weaving (and some dyeing and finishing, as well) was done by wool-manufacturing establishments for other mills making products of wool. It is impossible to state the extent of this duplication, but it can not exceed the amount paid for contract work by wool-manufacturing establishments (\$2,456,260), and it is probably somewhat less than this.

The duplication as indicated may be summarized as follows:

Yarn.....	\$56,457,000
Waste.....	10,617,000
Tops.....	4,927,000
Contract work.....	2,456,000
Total.....	74,457,000

This represents what may be called the maximum possible duplication in wool manufactures, and it amounts to 16 per cent of the

total value of products (\$464,249,813). The actual duplication is undoubtedly somewhat less, but there are several factors which make it impossible to give a more accurate computation than that above. For one thing, the products reported are those made for sale during the year, while the materials are those actually used. There may be during any year a considerable quantity of some partially finished product made for sale but not used; and, on the other hand, there may be a greater quantity of these partly finished products used during the year than there were made during that year, the difference being accounted for by the decrease in stock on hand at the end of the year as compared with that on hand at its beginning. Stocks in transit also come under this head.

Some partially manufactured products are imported, but how much of these are used in wool manufactures and how much used in other textile mills it is impossible to determine. Some of these products, especially tops, are made on commission for dealers and merchants from whom the Census Bureau secured no reports, and consequently they do not appear in the total products. The following is a complete statement of the items involving duplication, together with the amounts of these materials secured by importation, and the amounts used as materials in other lines of textile manufacture:

MATERIALS.

Purchased woolen, worsted, and merino yarn:	Pounds.	Value.
Used in wool manufactures.....	87,404,089	\$56,456,572
Used in manufacture of cotton, silk, and hosiery and knit goods.....	28,428,802	21,108,887
Total.....	115,832,891	77,565,459
Purchased waste and noils:		
Used in wool manufactures.....	50,350,387	10,616,633
Used in manufacture of hosiery and knit goods....	5,946,337	1,827,122
Total.....	56,296,724	12,443,755
Purchased tops used in wool manufactures.....	29,177,790	16,707,322
Partially manufactured products available for further use in manufacture.		
Woolen, worsted, and merino yarn:		
Produced for sale.....	124,351,215	\$84,090,269
Imported.....	4,760,610	3,946,484
Total.....	129,111,825	88,036,753
Waste and noils:		
Produced for sale.....	54,020,789	10,412,780
Imported.....	2,746,172	594,134
Total.....	56,766,961	11,006,964
Tops:		
Produced for sale.....	8,985,170	4,926,929
Imported.....	6,180,632	3,182,628
Total.....	15,165,802	8,109,557

steadily increasing predominance of large corporations. It is also the result of the disappearance of a very large number of carding mills throughout the country. These were the mills containing perhaps one set of cards operated frequently in connection with a saw-mill or a gristmill but reported in earlier days as a part of the wool-manufacturing industry. In each census report since that of 1869 there has been a very material decrease in the number of such establishments. At the present time the number of mills engaged exclusively in carding is very small.

Summary, by states.—Table 3 summarizes the more important statistics of wool manufactures, by states, the states being arranged according to the value of products reported for 1914. The rank of the states in 1914 and 1909, the per cent distribution for 1914, and the percentages of increase for each five-year period beginning with 1899 are also presented.

In certain states the data for some establishments were omitted in order to avoid the disclosure of individual operations.

Table 3

WOOL MANUFACTURES.

STATE.	Number of establishments.	Census of 1914.									Per cent of increase. ¹								
		Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
United States.....	979	195,285	.....	.....	\$464,249,813	.....	.....	\$166,186,315	.....	.....	-3.3	12.3	13.1	-8.5	33.1	28.3	-10.0	33.5	19.5
Massachusetts ¹	183	59,574	30.5	1	141,329,858	30.4	1	51,584,155	31.0	1	-0.7	20.2	17.8	-7.9	40.8	35.3	13.0	46.4	21.7
Pennsylvania.....	266	34,030	17.4	2	87,508,317	18.8	2	28,561,119	17.2	2	-12.6	2.5	1.1	-14.5	23.2	15.6	-13.6	13.5	8.8
Rhode Island ¹	80	22,745	11.6	3	60,888,755	13.1	3	19,153,956	11.5	3	-8.7	15.3	21.0	-18.4	41.7	34.8	-18.8	41.1	19.7
New York.....	65	21,092	10.8	4	47,173,617	10.2	4	18,491,288	11.1	4	-1.2	6.7	11.1	-4.4	26.9	26.2	-13.1	25.0	17.9
New Jersey ¹	35	15,336	7.9	5	38,491,162	8.3	5	14,069,957	8.5	5	13.3	33.5	23.1	7.3	97.8	31.5	0.8	113.5	23.2
Maine ²	57	7,998	4.1	7	17,531,470	3.8	6	6,708,354	4.0	6	-6.5	-2.5	22.0	-2.6	2.4	31.1	-2.4	-0.5	23.8
Connecticut ¹	53	7,350	3.8	8	17,128,975	3.7	7	6,365,465	3.8	7	-5.6	4.8	9.4	-11.5	25.1	24.1	-2.5	18.6	16.7
New Hampshire.....	40	9,532	4.9	6	15,039,284	3.2	8	4,952,463	3.0	8	0.5	44.1	20.5	-10.1	17.1	37.6	-12.1	17.3	28.3
Ohio ²	12	2,959	1.5	9	7,232,834	1.6	9	3,771,284	2.3	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vermont.....	17	2,226	1.1	10	4,634,593	1.0	10	1,645,981	1.0	10	-3.0	2.6	43.5	3.1	-4.3	66.5	1.7	-15.0	74.7
Wisconsin ²	22	795	0.4	12	1,955,742	0.4	11	696,266	0.4	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oregon.....	7	648	0.3	15	1,701,587	0.4	12	758,601	0.5	11	38.2	-21.2	-15.8	83.2	-18.7	15.1	88.8	-25.3	24.5
Tennessee.....	17	1,069	0.5	11	1,546,591	0.3	13	623,277	0.4	13	-35.4	16.9	-13.3	-14.2	5.6	12.5	7.7	-11.3	18.4
Indiana ³	10	719	0.4	13	1,522,027	0.3	14	531,253	0.3	14	-7.3	-21.9	-6.4	-3.1	-1.7	7.4	3.3	-23.3	-2.6
Minnesota ³	16	448	0.2	18	1,297,654	0.3	15	448,143	0.3	15	61.7	-19.2	14.3	85.8	-11.6	59.2	66.1	-17.7	45.8
Michigan.....	9	477	0.2	17	1,215,467	0.3	16	422,730	0.3	16	-13.9	-11.2	-21.9	-22.6	17.4	34.3	-40.3	30.8	52.3
All other states.....	90	8,287	4.3	.....	18,051,880	3.9	.....	7,502,023	4.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Percentages are based on figures in Table 53; a minus sign (—) denotes decrease; percentages are omitted where comparable figures can not be given.

² Excludes statistics for two establishments, to avoid disclosure of individual operations.

³ Excludes statistics for one establishment, to avoid disclosure of individual operations.

⁴ Excludes statistics for three establishments, to avoid disclosure of individual operations.

While wool manufactures are largely concentrated in the New England and Middle Atlantic states, establishments were reported from 32 states of the Union. Only 40 establishments were located west of the Mississippi and 60 south of the Ohio and Potomac. Massachusetts was by far the most important state in wool manufactures, having reported in 1914 almost one-third of the total value of products. Pennsylvania ranked second in 1914, 1909, and 1904 in number of wage earners and value of products, while Rhode Island ranked third.

The distribution of the number of establishments in 1914, by states, is presented graphically in the map on the following page.

Sixteen counties (considering Greater New York as one county) reported more than 10 establishments each. They are indicated on the map by means of a square.

These counties, together with the number of establishments in each county, are:

Somerset County, Me.....	12	Washington County, R. I....	11
Essex County, Mass.....	26	Windham County, Conn....	11
Middlesex County, Mass....	30	New London County, Conn....	13
Norfolk County, Mass.....	13	Tolland County, Conn.....	17
Worcester County, Mass....	78	Greater New York, N. Y....	12
Hampden County, Mass....	12	Philadelphia, Pa.....	188
Berkshire County, Mass....	12	Montgomery County, Pa....	15
Providence, R. I.....	66	Delaware County, Pa.....	12

Persons engaged in the industry.—Table 4 shows, for 1914 and 1909, the number of persons engaged in the industry group as a whole, and in each of the five industries separately, distributed according to occupational status and sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

WOOL MANUFACTURES—LOCATION OF ESTABLISHMENTS: 1914.

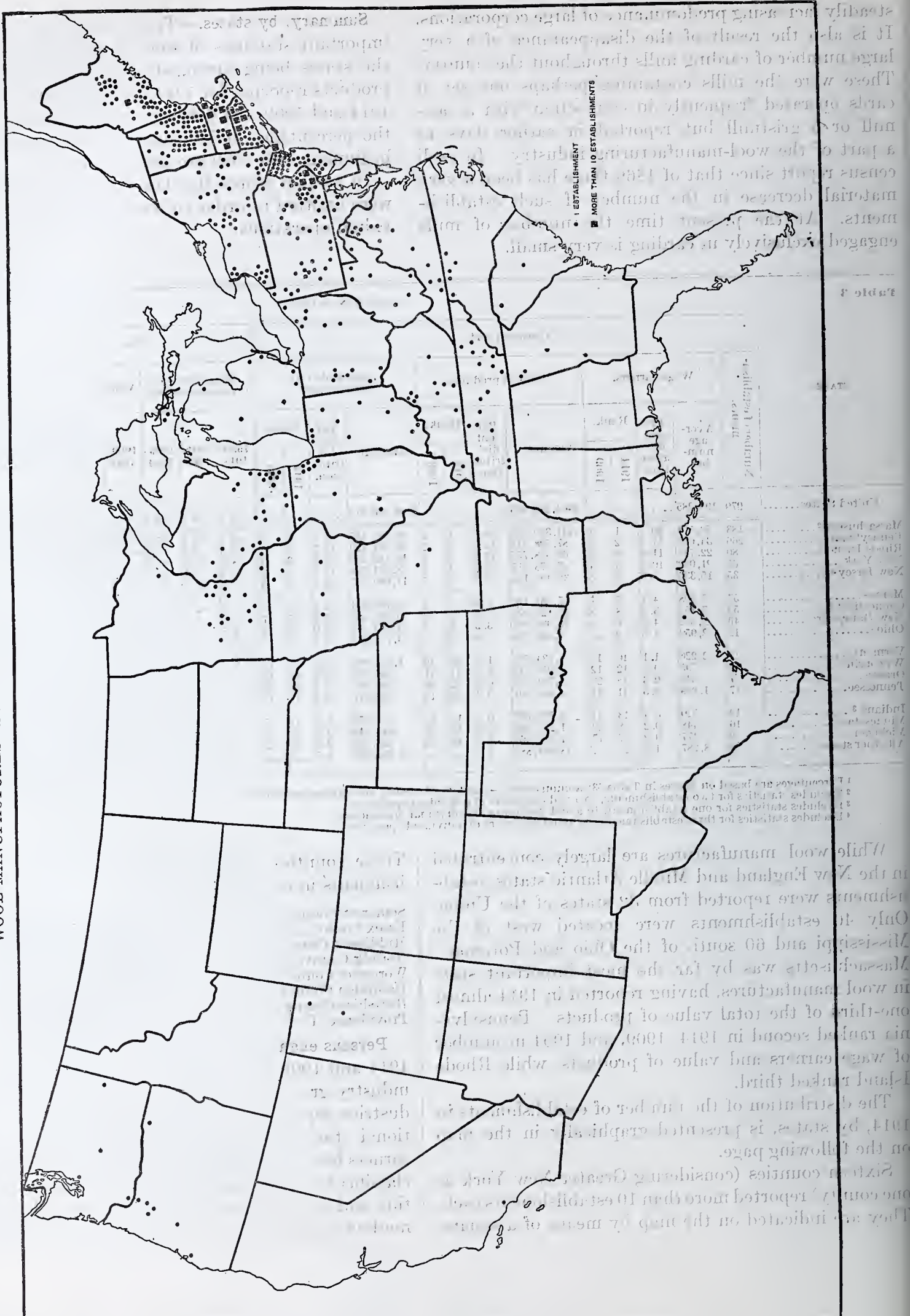


Table 32

LOOM.	NUMBER OF LOOMS IN THE COTTON-GOODS INDUSTRY: 1914 ¹					
	Total.	Width.			Domestic make.	Foreign make.
		Narrow, less than 32 inches.	Broad, 32 to 42 inches.	Special, 43 inches and over.		
Total.....	672,754	115,507	477,884	79,363	672,351	403
Plain, total.....	556,385	100,625	390,607	65,153	556,138	247
Nonautomatic.....	359,476	70,203	246,922	42,351	359,366	110
Two-harness.....	211,220	39,526	146,316	25,378	211,198	22
More than two-harness.....	105,189	16,158	74,800	14,231	105,111	78
Box.....	43,067	14,519	25,806	2,742	43,057	10
Automatic.....	196,909	30,422	143,685	22,802	196,772	137
Circular.....	940		940		940	
Fancy, total.....	115,429	14,882	86,337	14,210	115,273	156
Nonautomatic.....	104,462	13,519	77,699	13,214	104,442	20
Dobby.....	66,940	8,030	54,435	4,475	66,920	20
Dobby box.....	18,145	3,072	13,324	1,749	18,145	
Jacquard.....	12,986	1,355	7,381	4,250	12,986	
Jacquard box.....	6,391	1,062	2,559	2,770	6,391	
Automatic.....	10,967	1,363	8,638	966	10,831	136

¹ Not including mills in the cotton-small-wares and cotton-lace industries.

Looms reported by establishments engaged primarily in the manufacture of cotton small wares and of cotton lace are not included in this nor in the following table; these looms are so different in character from the ordinary cotton looms that to include them would only produce confusion.

More than 70 per cent of all the looms were designated as broad looms (32 to 42 inches in width). Plain looms constituted 82.7 per cent of the total and fancy looms, 17.2 per cent. Two-harness and automatic looms were the chief kinds of plain looms used, while dobbie looms constituted nearly three-fifths of the fancy looms. Less than one-tenth of 1 per cent of the looms were of foreign manufacture.

Table 33 gives, by states, for 1914 the number of looms classified according to kind and width. Of the total number of looms, Massachusetts, with 228,127 or 33.9 per cent, ranked first, while South Carolina, North Carolina, and Rhode Island each reported more than 50,000 looms.

Table 33

LOOM.	United States.	LOOMS IN COTTON MILLS. ¹												
		Ala-bama.	Connec-ticut.	Georgia.	Maine.	Massa-chusetts.	New Hamp-shire.	New York.	North Carolina.	Penn-syl-vania.	Rhode Island.	South Carolina.	Vir-ginia.	All other states.
Total.....	672,754	18,463	26,721	41,869	28,972	228,127	41,296	11,722	60,931	10,583	52,095	111,189	14,436	26,440
Domestic make.....	672,351	18,463	26,720	41,869	28,836	228,056	41,206	11,666	60,931	10,446	52,095	111,187	14,436	26,440
Foreign make.....	403		1		136	71		56		137		2		
Plain.....	556,385	17,520	22,139	38,336	27,431	170,620	38,975	9,932	51,593	5,123	40,314	98,276	14,136	21,990
Nonautomatic—														
Two-harness.....	211,220	7,536	7,358	13,883	3,642	83,784	2,651	1,928	16,676	159	17,290	40,983	2,416	12,914
Narrow (less than 32 inches).....	39,526	1,183	482	913	312	20,754	781	398	6,227	7	302	5,864	735	1,568
Broad (32 to 42 inches).....	146,316	5,327	5,474	9,859	2,508	54,167	1,667	571	9,779	67	14,072	32,417	1,606	8,802
Special (43 inches and over).....	25,378	1,026	1,402	3,111	822	8,863	203	959	670	85	2,916	2,702	75	2,544
More than two-harness.....	105,189	681	6,857	6,441	1,729	44,600	5,530	1,058	11,659	2,640	11,153	9,561	134	3,146
Narrow.....	16,158	128	910	905	270	7,599	1,031	20	2,282	349	717	1,293		654
Broad.....	74,800	361	4,125	4,872	1,459	32,382	4,072	738	8,522	1,513	6,223	8,258	111	2,164
Special.....	14,231	192	1,822	664		4,619	427	300	855	778	4,213	10	23	328
Box.....	43,067	382	16	3,313	4,211	6,099	14,652	74	6,637	1,511	126	2,357	3,334	335
Narrow.....	14,519			288		719	4,173	21	4,076	537	28	1,401	2,909	247
Broad.....	25,806	354	16	2,491	4,211	5,136	9,178	36	2,461	734	20	722	365	82
Special.....	2,742	28		534		184	1,301	17	100	240	78	234		26
Automatic.....	196,909	8,921	7,908	14,699	17,849	36,137	16,142	6,872	16,621	813	11,745	45,375	8,252	5,575
Narrow.....	30,422	2,034	3,634	2,088	2,849	5,258	827		3,317		8.8	5,270	2,846	1,421
Broad.....	143,685	5,539	3,935	10,157	11,377	26,832	13,469	5,509	10,489	619	9,899	39,169	3,730	2,961
Special.....	22,802	1,348	339	2,454	3,623	4,047	1,816	1,363	2,815	194	968	936	1,676	1,193
Circular.....	940											940		
Narrow.....														
Broad.....	940											940		
Special.....														
Fancy.....	115,429	943	4,582	3,533	1,541	57,507	2,231	1,790	9,338	5,460	11,781	11,973	300	4,450
Nonautomatic—														
Dobby.....	66,940		2,761	2,063	340	38,104	1,549	1,107	2,222	855	4,972	9,357	300	3,310
Narrow.....	8,030		49	40		3,837	19	78	582	50	291	2,153		931
Broad.....	54,435		2,518	1,797	340	32,385	1,454	989	1,640	683	3,568	7,124	300	1,637
Special.....	4,475		194	226		1,882	76	40		122	1,113	80		742
Dobby box.....	18,145		879	806	238	6,437	49	47	3,733	2,357	2,732	698		169
Narrow.....	3,072			92		387	25	43	1,925	203	367			30
Broad.....	13,324		825	522	232	5,488	24		1,808	1,846	1,757	698		124
Special.....	1,749		54	192	6	562		4		308	608			15
Jacquard.....	12,986	193	174	372	441	7,263	369	131	1,351	1,156	1,087	318		131
Narrow.....	1,355				108	860		125	92	1	100	61		8
Broad.....	7,381		100	229	144	5,726			140	43	818	150		31
Special.....	4,250	193	74	143	189	677	369	6	1,119	1,112	169	107		92
Jacquard box.....	6,391		5	132	278	1,080	34	92	409	1,084	2,836	52		389
Narrow.....	1,062					12		80	350		620			
Broad.....	2,559					600		12	6	204	1,616	50		71
Special.....	2,770		5	132	278	468	34		53	880	600	2		318
Automatic.....	10,967	750	763	160	244	4,623	230	413	1,623	8	154	1,548		451
Narrow.....	1,363	720	34			138					53	24		389
Broad.....	8,638		729	160	184	3,896		413	1,615		55	1,524		62
Special.....	966	30		60		589	230		8	8	41			

¹ Not including mills in the cotton-small-wares or cotton-lace industries.

Relation of spindles to wage earners and cotton consumption.—Table 34 shows the average number of wage earners in cotton mills (including the mills in the cotton-small-wares and cotton-lace industries), the amount of wages paid, the total number of active producing spindles, the number of such spindles per wage earner, and the amount of wages paid per spindle, for each census year from 1879 to 1914. A marked increase in the number of spindles per wage earner and in the amount of wages paid per spindle is shown by this table.

YEAR.	COTTON MANUFACTURES:				
	Wage earners (average number).	Wages.	Number of active producing spindles.	Number of spindles per wage earner.	Wages per spindle.
1914.....	393,404	\$152,422,599	30,915,489	78.51	\$4.93
1909.....	378,880	132,859,145	27,425,608	72.39	4.84
1904.....	315,874	96,205,796	23,195,143	73.43	4.15
1899.....	302,861	86,689,752	19,050,952	62.90	4.55
1889.....	218,876	66,024,538	14,188,103	64.82	4.65
1879.....	172,544	42,040,510	10,653,435	61.74	3.95

Table 35 shows the amount of cotton used per spindle in cotton manufactures in the United States during each census year from 1879 to 1914 and in the leading states during 1914 and 1909.

STATE.	COTTON CONSUMED PER SPINDLE IN COTTON MANUFACTURES (POUNDS).	
United States:		
1914.....	81.70	
1909.....	85.15	
1904.....	80.90	
1899.....	95.41	
1889.....	78.79	
1879.....	70.43	
	1914	1909
Leading states:		
New England—		
Massachusetts.....	59.13	66.39
New Hampshire.....	105.47	105.03
Rhode Island.....	50.98	47.70
Southern—		
Alabama.....	128.82	131.22
Georgia.....	141.36	143.37
North Carolina.....	112.94	120.41
South Carolina.....	81.92	86.40

In considering this table it is necessary to bear in mind that the number of active spindles used as the basis of the calculations involved include all spindles active at any time during the census year without regard to the duration of activity. The table, however, shows only the actual results of average spindle consumption and does not indicate average spindle capacity. As previously stated, spindles are operated at varying speeds and on different counts of yarns and these with the time employed are the controlling factors in the production by the spindles in any locality. A reduction in the consumption per spindle might indicate either increased nonemployment or a higher grade of production—that is, the spinning of finer counts, or both.

Dyeing and finishing and contract work.—Table 36 gives, by states, the number of establishments bleach-

ing, dyeing, or printing their own goods, the number performing these processes for others, and the number doing custom spinning and weaving, as reported for 1914 and 1909.

STATE.	ESTABLISHMENTS IN COTTON MANUFACTURES.							
	Total number.		Bleaching, dyeing, or printing—				Doing custom spinning or weaving.	
			Their own goods.		For others.			
	1914	1909	1914	1909	1914	1909	1914	1909
United States.....	1,328	1,324	268	315	36	27	46	19
Alabama.....	57	51	6	4				
Connecticut.....	50	52	12	14	1	1	2	1
Georgia.....	119	116	15	31	1		2	
Maine.....	15	16	5	3			2	
Massachusetts.....	189	182	48	48	10	9	15	4
New Hampshire.....	20	21	8	9	2	2		
New Jersey.....	30	26	8	8	4	2	2	
New York.....	51	47	12	21	1	3		
North Carolina.....	293	281	61	70	4	3	5	
Pennsylvania.....	155	175	37	49	4	3	11	8
Rhode Island.....	102	106	22	19	6	3	5	5
South Carolina.....	148	147	13	19	1			
All other states.....	99	104	21	20	2	1	2	1

Of the 1,328 establishments in the cotton-manufacturing industries in 1914 only 268 reported that they bleached, dyed, or printed their own goods, and of these only 36 performed processes for others. Custom spinning or weaving was done by 46. Among the states there is considerable variation in the proportion of the mills doing bleaching, dyeing, or printing. Approximately 15 per cent of the mills in the South reported these operations, while the proportion of the total number in the Northern states was 25 per cent. The total expenditure by cotton mills for contract work of all kinds in 1914 amounted to \$1,614,636. This is shown, by states, in Table 51.

STATISTICS FOR THE COTTON-LACE INDUSTRY.

Statistics for the cotton-lace industry were collected separately for the first time in 1914. At all previous censuses the statistics for the establishments in this industry were included with those for the cotton-goods and the cotton-small-wares industries.

Summary, by states.—The principal statistics of the industry are presented in the following table, for 1914, for the United States and for those states for which separates statistics can be shown.

There were 41 establishments reporting, distributed among 9 states as follows: Connecticut, 3; Illinois, 1; Missouri, 1; New Hampshire, 2; New Jersey, 1; New York, 10; Ohio, 1; Pennsylvania, 13; and Rhode Island, 9. The total value of the product reported by these establishments amounted to \$13,206,785 and, in addition, 3 establishments engaged primarily in other industries reported the production of cotton-lace goods to the value of \$958,738. Pennsylvania was by far the most important state in the industry, having reported 48.4 per cent of the average number of wage earners, 59.2 per cent of the capital invested, 44.1 per

cent of the amount paid for wages, and 49.5 per cent of the value of products. In number of establishments, value of products, and cost of materials, New York ranked second, but in number of persons employed and salaries and wages paid Rhode Island occupied that position.

COTTON-LACE INDUSTRY: 1914.					
	United States.	New York.	Pennsylvania.	Rhode Island.	All other states.
Number of establishments..	41	10	13	9	9
Persons engaged.....	8, 123	1, 182	3, 970	1, 452	1, 519
Proprietors and firm members.....	10	6	3	.....	1
Salaried employees.....	673	81	365	95	132
Wage earners (average number).....	7, 440	1, 095	3, 602	1, 357	1, 386
Primary horsepower.....	9, 096	1, 428	4, 743	1, 315	1, 610
Capital.....	\$20, 956, 509	\$3, 036, 225	\$12, 404, 430	\$3, 122, 216	\$2, 393, 638
Salaries and wages.....	4, 679, 057	671, 593	2, 230, 553	868, 138	908, 773
Salaries.....	1, 210, 976	133, 391	702, 398	178, 802	196, 385
Wages.....	3, 468, 081	538, 202	1, 528, 155	689, 336	712, 388
Paid for contract work.....	47, 896	.....	18, 411	29, 466	19
Rent and taxes (including internal revenue).....	118, 407	17, 214	47, 353	30, 590	23, 250
Cost of materials.....	5, 676, 948	900, 681	3, 037, 936	831, 341	906, 990
Value of products.....	13, 206, 785	2, 194, 088	6, 534, 485	2, 056, 962	2, 421, 250
Value added by manufacture (value of products less cost of materials).....	7, 529, 837	1, 293, 407	3, 496, 549	1, 225, 621	1, 514, 260

Materials.—Table 38 gives the quantity and cost of the principal materials used in this industry for the United States, and, as far as can be shown without disclosing individual operations, for the principal states engaged.

COTTON-LACE INDUSTRY: 1914.		
MATERIAL.	Quantity (pounds).	Cost.
United States.....	.....	\$5, 676, 948
Yarns:		
Cotton—		
United States.....	11, 137, 700	13, 709, 978
New York.....	1, 946, 677	577, 212
Pennsylvania.....	7, 451, 857	2, 171, 934
Rhode Island.....	1, 093, 489	525, 902
All other states.....	645, 677	434, 930
Mercerized cotton—		
United States.....	247, 801	83, 433
Silk and spun silk—		
United States.....	255, 240	263, 612
Rhode Island.....	34, 312	163, 910
All other states.....	20, 928	99, 702
Artificial silk—		
United States.....	3, 508	7, 533
Starch:		
United States.....	.....	39, 070
Pennsylvania.....	.....	33, 891
All other states.....	.....	5, 179
Chemicals and dyestuffs:		
United States.....	.....	75, 433
New York.....	.....	9, 558
Pennsylvania.....	.....	41, 549
Rhode Island.....	.....	10, 962
All other states.....	.....	13, 364
All other materials.....	.....	1, 497, 889

¹ Includes raw cotton, statistics for which can not be shown without disclosing individual operations.

² Includes raw silk, statistics for which can not be shown without disclosing individual operations.

Raw cotton and cotton yarn constituted 65.4 per cent and silk and spun silk yarn, 4.6 per cent of the total cost of materials. Practically two-thirds of the quantity and value of cotton yarn was reported from Pennsylvania, while Rhode Island showed about the

same proportion of the total of silk and spun-silk yarns. An appreciable quantity of cotton was purchased in the raw state and spun into yarn by the mills using it, but the statistics can not be shown without disclosing individual operations.

Products.—Table 39 gives, for the United States, and for such states as can be shown separately, the quantity and value of the different products of the cotton-lace industry.

COTTON-LACE INDUSTRY: 1914.		
PRODUCT.	Quantity.	Value.
United States, total.....	.....	\$13, 206, 785
New York.....	.....	2, 194, 088
Pennsylvania.....	.....	6, 534, 485
Rhode Island.....	.....	2, 056, 962
All other states.....	.....	2, 421, 250
Nottingham lace curtains:	<i>Pairs.</i>	
United States.....	5, 591, 154	4, 678, 847
Pennsylvania.....	4, 127, 985	3, 342, 828
All other states.....	1, 463, 169	1, 336, 019
Nottingham lace-curtain nets:	<i>Linear yards.</i>	
United States.....	7, 504, 809	1, 258, 307
Pennsylvania.....	6, 696, 842	1, 019, 217
All other states.....	807, 967	239, 090
Levers laces:	<i>Square yards.</i>	
United States.....	7, 236, 934	3, 681, 042
Rhode Island.....	3, 761, 362	1, 815, 006
All other states.....	3, 475, 572	1, 866, 036
Other narrow laces.....	<i>Linear yards.</i>	
.....	166, 169, 567	896, 692
Panels and other small pieces:	<i>Number.</i>	
United States.....	2, 359, 879	322, 594
Pennsylvania.....	2, 275, 928	278, 844
All other states.....	83, 951	43, 750
Bedspreads:	<i>Number.</i>	
United States.....	719, 333	484, 107
Pennsylvania.....	530, 780	316, 330
All other states.....	188, 553	167, 777
All other laces:		
United States.....	.....	1, 199, 464
Pennsylvania.....	.....	464, 820
All other states.....	.....	734, 644
All other products:		
United States.....	.....	685, 732
Pennsylvania.....	.....	221, 923
All other states.....	.....	463, 809

¹ In addition, three establishments engaged primarily in other industries reported products valued at \$958,738.

Measured by value (no other unit of measure being common to the various products), Nottingham lace curtains, which represented 35.4 per cent of the total value of products, constituted the most important class. Levers laces and lace curtain-nets were second and third in importance, representing 27.9 per cent and 9.5 per cent, respectively, of the total. Rhode Island manufactured over one-half of all the levers laces reported for the United States and this one class constituted 88.2 per cent of all the lace goods reported by that state. In every other class of goods Pennsylvania far outranked any of the other states. Owing to the fact that the manufacture of narrow laces is largely confined to a small number of establishments, separate state statistics can not be shown without disclosing the operations of individual plants.

Equipment.—In Table 40 the number of spindles and the different kinds of lace machines are shown, grouped according to manufacture, whether domestic or foreign.

Table 40

MACHINERY.	COTTON-LACE INDUSTRY: 1914.	
	Foreign manufacture (number).	Domestic manufacture (number).
Spindles:		
Frame.....		28,000
Lace machines:		
Nottingham lace curtain.....	412	
Bobbinet.....	28	3
Levers.....	374	70
Warp.....	26	9
All other.....	508	152

Of the lace machines, those used in the manufacture of Nottingham lace curtains form the greatest

proportion, being followed closely by the levers machines. A large number of those classified as "all other" are circular machines. More than five-sixths of the total number of lace machines are of foreign manufacture. The industry is comparatively new in this country and has hardly become of sufficient importance to attract the attention of textile machinery manufacturers.

STATISTICS FOR THE COTTON-SMALL-WARES INDUSTRY.

Statistics for the manufacture of cotton small wares are summarized in Table 41 for 1914, 1909, 1904, and 1899.

Table 41

	COTTON-SMALL-WARES INDUSTRY.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	108	116	77	82	-6.9		
Persons engaged.....	7,062	8,233	5,724	5,206	-14.2	43.8	10.0
Proprietors and firm members.....	70	74	65	85			
Salaried employees.....	394	461	243	189	-14.5	89.7	28.6
Wage earners (average number).....	6,598	7,698	5,416	4,932	-14.3	42.1	9.8
Primary horsepower.....	10,100	10,412	7,495	5,975	-3.0	38.9	25.4
Capital.....	\$11,764,495	\$13,824,772	\$8,010,491	\$6,397,385	-14.9	72.6	25.2
Salaries and wages.....	3,463,783	3,765,968	2,154,224	1,790,067	-8.0	74.8	20.3
Salaries.....	638,893	696,540	326,124	226,625	-8.3	113.6	43.9
Wages.....	2,824,890	3,069,428	1,828,100	1,563,442	-8.0	67.9	16.9
Paid for contract work.....	82,970	98,425	78,009	109,439	-15.7	26.2	28.7
Rent and taxes (including internal revenue).....	195,401	162,838	297,864	277,474	20.0		
Cost of materials.....	6,243,027	6,995,906	4,207,655	3,110,137	-10.8	66.3	35.3
Value of products.....	11,525,033	13,174,111	8,016,486	6,394,164	-12.5	64.3	25.4
Value added by manufacture (value of products less cost of materials).....	5,282,006	6,178,145	3,808,831	3,284,027	-14.5	62.2	16.0

¹ A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

² Exclusive of internal revenue.

This industry includes establishments which use cotton or cotton yarn as their principal material, and confine their operations to the manufacture of narrow fabrics, such as ribbons, tapes, elastic webbing; wicking, corset and apron trimmings, braids, etc. These are either woven on a ribbon loom, where the warp is divided into a number of separate divisions and a series of small shuttles used to weave a number of narrow ribbons or tapes simultaneously, or else made on a braiding machine, which uses but one set of threads, plaiting them together to form the design desired. These mills manufacture no yarn for sale, but some of them spin the yarn which they themselves use. Except as specially noted, these statistics are included with those for cotton manufactures as a whole. In considering the statistics in this and other tables dealing with this industry, it must be remembered that a number of mills assigned to the cotton-goods classification manufacture as a secondary product considerable quantities of goods which properly belong to the cotton-small-wares industry.

There appears to be a decline in the importance of this industry during the five-year period 1909-1914, although a great advance is shown for the previous

five-year period and a general increase may be noted for the decade. The decreases from 1909 to 1914 are due not so much to a lessened production of cotton small wares as to changes in census classifications. Several cotton-lace mills, now classed in the cotton-lace industry, were included with the manufacture of cotton small wares in 1909, and other concerns in which cotton small wares were the principal or only products in 1909 now manufacture these goods only as secondary products, and are therefore classed in other industries.

Summary, by states.—Table 42 gives, by states, for 1914, 1909, 1904, and 1899, the most important statistics of the cotton-small-wares industry.

In every important item shown in the table Rhode Island ranked first, Pennsylvania second, and Massachusetts third at each census, and in 1914 they reported 86.4 per cent of the wage earners and 84.1 per cent of the total value of products of the industry. Massachusetts shows a small increase in the latter item as compared with 1909, but a decrease during this five-year period appears in each of the other states shown in the table.

Table 42

COTTON SMALL WARES—COMPARATIVE STATISTICS, BY STATES.

STATE.	Census year.	Number of establishments.	Persons engaged in the industry.				Primary horse-power.	Capital.	Salaries.	Wages.	Cost of materials.	Value of products.	Value added by manufacture.
			Total.	Proprietors and firm members.	Salaried employees.	Wage earners (average number).							
Expressed in thousands.													
United States.....	1914	108	7,062	70	394	6,598	10,100	\$11,764	\$639	\$2,825	\$6,243	\$11,525	\$5,282
	1909	116	8,233	74	461	7,698	10,412	13,825	697	3,069	6,996	13,174	6,178
	1904	77	5,724	65	243	5,416	7,495	8,010	326	1,828	4,208	8,016	3,808
	1899	82	5,206	85	189	4,932	5,976	6,397	227	1,563	3,110	6,394	3,284
Massachusetts.....	1914	24	1,025	10	65	950	1,660	1,705	95	406	1,107	1,840	733
	1909	24	986	20	70	896	1,626	1,391	94	365	989	1,711	722
	1904	19	668	13	48	607	1,177	883	55	203	501	898	397
	1899	14	465	11	24	430	800	528	32	151	321	647	326
New York.....	1914	11	268	17	19	232	274	556	50	127	316	600	284
	1909	9	342	12	26	304	288	556	47	134	304	603	299
	1904	3	236	1	24	211	350	548	33	71	242	416	174
	1899	18	664	22	42	600	290	551	36	163	461	840	379
Pennsylvania.....	1914	26	2,002	16	106	1,880	1,798	3,298	189	738	1,801	3,458	1,657
	1909	33	2,477	24	148	2,305	1,775	4,105	222	818	2,406	4,232	1,826
	1904	21	1,565	27	64	1,474	1,041	2,169	85	488	1,110	2,163	1,053
	1899	24	1,528	34	50	1,444	969	1,946	65	455	938	2,026	1,088
Rhode Island.....	1914	28	3,016	16	131	2,869	5,332	5,153	206	1,265	2,387	4,394	2,007
	1909	29	3,567	8	138	3,421	5,307	6,306	221	1,456	2,578	5,191	2,613
	1904	26	2,939	13	85	2,841	4,082	3,950	130	1,000	1,996	3,945	1,949
	1899	16	2,270	13	48	2,209	3,313	2,877	68	736	1,096	2,380	1,284
All other states.....	1914	19	751	11	73	667	1,036	1,052	99	289	632	1,233	601
	1909	21	861	10	79	772	1,416	1,467	113	296	719	1,437	718
	1904	8	316	11	22	283	845	460	23	66	359	594	235
	1899	10	279	5	25	249	604	495	26	58	294	501	202

Materials.—Table 43 gives the quantities and cost of the principal materials used in the industry for 1914, 1909, and 1904.

Table 43

MATERIALS USED IN THE COTTON-SMALL-WARES INDUSTRY.

	1914	1909	1904
Total cost.....	\$6,243,027	\$6,995,966	\$4,207,655
Cotton:			
Domestic—			
Bales.....	20,192	6,331	6,676
Pounds.....	9,810,156	3,082,270	3,362,434
Cost.....	\$954,079	\$359,106	\$390,805
Silk:			
Pounds.....		100,662	23,924
Cost.....		\$350,834	\$98,617
Yarns:			
Cotton—			
Pounds.....	14,716,299	18,346,525	13,816,858
Cost.....	\$3,598,598	\$4,700,513	\$3,009,717
Silk and spun silk—			
Pounds.....	86,943	37,617	19,090
Cost.....	\$313,439	\$112,912	\$58,624
Artificial silk—			
Pounds.....	78,344	(1)	(1)
Cost.....	\$148,790	(1)	(1)
Other yarns—			
Pounds.....	326,520	480,013	389,148
Cost.....	\$199,255	\$252,385	\$66,975
Waste:			
Pounds.....	121,175	625,526	156,000
Cost.....	\$9,466	\$59,138	\$12,480
Starch, cost.....	\$5,123	\$18,681	\$15,565
Chemicals and dyestuffs, cost.....	\$75,503	\$77,337	\$36,032
All other materials, cost.....	\$938,774	\$1,065,060	\$518,840

¹ Not reported separately.

The most significant feature brought out in the table is the large increase from 1909 to 1914 in the use of raw cotton, accompanied by a decrease in the use of purchased cotton yarn. The figures for raw silk and silk yarn for 1914 are not strictly comparable with those for previous years; there was, however, only a small amount of these materials used.

Products.—Table 44 gives, for 1914, 1909, and 1904, the quantities and values of the principal products of the cotton-small-ware industry, as far as they can be shown without disclosing individual operations.

Table 44

PRODUCTS OF THE COTTON-SMALL-WARES INDUSTRY.

	1914	1909	1904
Total value.....	\$11,525,033	\$13,174,111	\$8,016,486
Tape and webbing.....	\$4,927,498	\$5,338,468	\$4,010,942
Yarns for sale:			
Pounds.....		150,428	162,000
Value.....		\$96,279	\$54,300
Waste for sale:			
Pounds.....	161,700	643,791	314,538
Value.....	\$5,059	\$15,306	\$13,020
Other cotton products, value.....	\$6,296,530	\$7,661,037	\$3,637,316
All other products, value.....	\$295,946	\$63,021	\$300,908
Yarn produced, pounds.....	19,185,556	12,637,021	12,410,268
No. 20 and under (coarse).....	(2)	1,127,514	344,135
No. 21 to No. 40 (medium).....	(2)	1,432,464	2,066,133
No. 41 to No. 60 (fine).....	(2)	77,043	

¹ Including that used in the further processes of manufacture.

² Figures not available.

A very much greater quantity of yarn was produced in cotton small-ware establishments for consumption therein in 1914 than in 1909. This is, of course, the natural accompaniment of the condition noted in the discussion on the preceding table regarding the large increase in the use of raw cotton and the decrease in the use of purchased cotton yarn. The figures for yarn produced in these establishments for their own use are to such a large degree estimates that no distribution of the yarn by size, which would be even approximately correct, can be made. The total pounds produced, however, are sufficiently accurate for ordinary use. The value of the most important single product of this industry, tape and webbing, decreased considerably for 1914 as compared with that for 1909. The value of the tape and webbing reported by the mills engaged primarily in the manufacture of cotton small wares constituted 95 per cent of the total value (\$5,188,806) of tape and webbing produced in all industries in 1914 and 96 per cent of the total (\$5,559,099) in 1909. "All other cotton products" include trimmings, braids, bindings, bandings, edgings, shoe and corset laces, belts, gimps, fringes, cords and tassels, candle wickings, woven labels, etc.

Equipment.—Table 45 gives the statistics for the spindles, looms, and braiding machines used in the cotton-small-ware industry for 1914, for the United States and for the three principal states.

STATE.	COTTON-SMALL-WARES INDUSTRY: 1914.		
	Spindles.	Looms.	Braiding machines.
United States.....	1 71,758	3,907	30,697
Massachusetts.....	8,934	730	8,445
Pennsylvania.....		1,215	5,024
Rhode Island.....	61,072	1,581	12,330
All other states.....	1,752	381	4,898

¹ Mills in this industry reported 29,808 spindles in 1909, 39,530 in 1904, and 42,600 in 1899.

From 1899 to 1909 there was shown a steady decrease in the number of producing spindles used in this industry, but from 1909 to 1914 there was an increase of 41,950, or 140.7 per cent. In 1914, Rhode Island reported 85.1 per cent of the total number of these spindles, while Pennsylvania reported no spindles whatever, the small-ware mills of that state having purchased all their cotton in the form of yarns. The largest number of looms and braiding machines was also reported by Rhode Island.

IMPORTS AND EXPORTS OF COTTON AND COTTON MANUFACTURES.

Table 46 shows, for each census year from 1850 to 1900, and for each year from 1905 to 1914, the production, net imports, consumption, and exports of raw cotton.

Table 46 YEAR.	QUANTITY (EQUIVALENT 500-POUND BALES).			
	Production. ¹	Net imports. ²	Consumption. ²	Exports. ²
1914.....	14,795,367	265,646	5,702,639	9,256,028
1913.....	14,313,015	225,460	5,630,835	9,199,093
1912.....	16,250,276	229,268	5,181,826	10,681,332
1911.....	12,005,688	231,191	4,516,779	8,025,991
1910.....	10,315,382	151,395	4,559,002	6,491,843
1909.....	13,587,306	165,451	5,198,963	8,889,724
1908.....	11,375,461	140,869	4,493,023	7,779,508
1907.....	13,595,498	202,733	4,974,199	8,825,236
1906.....	10,804,556	133,464	4,877,465	6,975,494
1905.....	13,679,954	130,182	4,523,208	9,057,397
1900.....	9,459,935	134,778	3,687,253	6,167,623
1890.....	7,472,511	18,334	2,518,409	4,928,921
1880.....	5,466,387	7,578	1,500,688	3,742,752
1870.....	2,409,597	3,026	796,616	1,987,708
1860.....	4,309,642		845,410	3,535,373
1850.....	1,975,274	485	575,506	1,270,763

¹ Figures represent the crop grown in the preceding year. Figures from 1900 to 1914, inclusive, include "linters."

² Statistics relate to year ending Aug. 31.

Table 47 shows the imports of cotton manufactures for each decennial period from 1869 to 1899, and for each year from 1899 to 1914. Table 48 presents corresponding statistics for exports.

Table 47

IMPORTS OF COTTON MANUFACTURES, NOT INCLUDING WEARING APPAREL, KNIT GOODS, HANDKERCHIEFS, OR MUFFLERS.

YEAR ENDING JUNE 30—	Total value.	Cloths.				Embroideries, lace insertion, trimmings, lace curtains, cords, and gimps (value).	Plushes, velvets, velveteens, and other pile fabrics, except corduroys.		Thread (not on spools), yarns, warps, and warp yarn.		All other manufactures, including waste.
		Not bleached, dyed, colored, stained, painted, or printed.		Bleached, dyed, colored, stained, painted, or printed.							
		Quantity (square yards).	Value.	Quantity (square yards).	Value.		Quantity (square yards).	Value.	Quantity (pounds).	Value.		Value.
1914.....	\$61,709,159	3,323,408	\$473,686	58,309,921	\$11,372,115	\$33,865,822	4,749,044	\$2,381,486	6,417,805	\$3,877,225	\$9,738,825
1913.....	58,230,363	4,316,677	519,645	39,320,684	7,238,283	35,776,301	4,696,967	2,576,440	7,728,649	4,449,254	7,670,440
1912.....	57,895,097	3,736,612	415,676	42,973,861	7,345,053	37,094,161	4,836,578	2,443,946	6,827,046	4,028,127	6,568,134
1911.....	58,837,006	4,155,520	469,888	51,379,640	8,331,116	35,924,612	4,292,467	1,840,139	7,121,140	4,218,214	8,053,037
1910.....	57,733,120	5,642,713	585,307	56,304,388	8,455,360	36,828,162	986,952	432,524	8,879,916	4,317,788	7,113,979
1909.....	53,594,709	2,535,251	289,843	65,841,357	9,900,294	34,368,580	1,042,739	423,161	6,926,295	3,306,172	5,306,659
1908.....	55,607,356	3,609,469	344,941	75,876,055	12,079,919	33,611,010	2,764,686	1,035,536	7,036,442	3,921,111	4,614,839
1907.....	62,303,867	2,406,910	280,298	80,233,421	12,727,769	39,756,502	2,575,495	963,715	6,940,261	3,583,627	4,991,956
1906.....	54,265,085	1,878,528	216,711	72,778,701	11,719,880	34,022,469	.....	.....	5,111,644	2,598,724	5,707,301
1905.....	41,630,668	1,309,358	155,695	46,210,012	7,794,179	25,911,684	.....	.....	5,025,331	2,204,154	5,564,956
1904.....	41,820,341	1,415,512	159,102	50,032,691	8,144,383	24,848,764	.....	.....	5,060,533	2,261,924	6,406,168
1903.....	44,863,170	1,322,007	156,545	59,998,185	9,013,092	25,110,081	.....	.....	5,764,937	2,421,729	8,161,723
1902.....	37,936,159	772,011	86,386	45,440,314	6,934,393	22,449,314	.....	.....	5,006,190	1,921,748	6,544,318
1901.....	33,443,782	1,612,267	196,949	39,150,760	5,928,653	20,235,299	.....	.....	3,725,256	1,746,723	5,336,158
1900.....	35,593,693	3,061,790	357,604	61,986,063	8,156,301	19,208,165	.....	.....	5,272,491	2,098,958	5,772,665
1899.....	26,902,715	1,250,932	107,023	51,196,236	6,649,014	14,550,015	.....	.....	2,325,974	849,819	4,746,844
1889.....	20,033,005	2,577,230	203,100	27,808,959	3,696,194	9,591,943	.....	.....	1,744,852	860,703	5,681,065
1879.....	14,930,975	1,673,088	178,359	5,195,126	707,064	.....	.....	.....	.....	.....	² 13,434,552
1869.....	16,474,036	¹ 26,860,638	³ 3,533,132	21,480,786	2,960,918	.....	.....	.....	.....	.....	³ 9,979,986

¹ Includes bleached goods.² Includes jeans, denims, and drillings to the value of \$141,066.³ Includes jeans, denims, and drillings to the value of \$991,051.

Table 48

EXPORTS OF DOMESTIC MANUFACTURES OF COTTON, NOT INCLUDING WEARING APPAREL OR KNIT GOODS.

YEAR ENDING JUNE 30—	Total value.	Cloths.						Waste; cotton.		Yarn (value).	All other manufactures (value).
		Unbleached and uncolored.		Bleached.		Colored.		Quantity (pounds).	Value.		
		Quantity (square yards).	Value.	Quantity (square yards).	Value.	Quantity (square yards).	Value.				
1914.....	\$40,699,785	199,886,679	\$13,838,005	42,104,861	\$3,392,969	172,868,473	\$11,613,653	67,250,583	\$4,566,769	\$716,036	\$6,572,353
1913.....	42,684,794	213,189,754	14,928,599	39,495,028	3,161,526	192,044,459	12,578,109	78,624,075	4,449,481	718,423	6,848,656
1912.....	41,791,095	247,131,711	16,774,304	40,848,436	3,029,897	188,798,352	11,584,797	62,157,317	3,518,255	599,593	6,284,249
1911.....	33,667,396	165,417,652	11,798,194	27,419,347	2,013,857	153,753,170	10,575,048	49,019,414	3,502,982	606,557	5,170,758
1910.....	27,672,029	152,710,558	10,098,985	19,371,650	1,351,040	137,829,096	8,521,466	54,311,226	3,129,034	463,404	4,108,100
1909.....	27,631,899	208,383,337	12,381,384	37,739,860	2,146,117	121,508,345	7,165,579	41,842,800	2,134,941	551,062	3,252,816
1908.....	20,476,279	101,833,072	6,930,007	23,896,769	1,529,057	80,264,971	5,809,019	45,784,473	2,631,595	400,600	3,176,001
1907.....	27,511,186	173,248,546	11,496,734	32,805,741	2,240,431	120,286,042	7,502,082	46,045,483	2,366,454	328,638	3,576,847
1906.....	48,605,458	594,517,108	36,252,553	(1)	(1)	116,975,946	6,929,307	37,839,284	1,852,154	365,452	3,205,992
1905.....	46,188,428	566,584,218	33,995,134	(1)	(1)	127,916,497	7,325,408	19,435,332	1,040,356	310,237	3,517,293
1904.....	19,703,293	156,060,758	9,256,922	(1)	(1)	91,319,979	5,439,277	26,258,471	1,585,765	172,286	3,249,043
1903.....	29,616,168	325,867,530	16,909,436	(1)	(1)	169,511,667	8,443,148	22,997,428	1,294,064	(2)	2,969,520
1902.....	30,017,770	358,004,521	18,501,908	(1)	(1)	146,769,292	7,359,288	14,725,201	697,653	(2)	3,458,921
1901.....	18,617,882	135,554,132	7,581,812	(1)	(1)	115,949,219	6,554,225	22,387,867	1,203,250	(2)	3,278,595
1900.....	22,400,479	264,314,474	13,229,443	(1)	(1)	87,880,515	4,839,491	12,940,380	610,120	(2)	3,721,425
1899.....	22,291,075	303,063,083	13,748,619	(1)	(1)	108,940,972	5,221,278	7,088,492	314,375	(2)	3,006,803
1889.....	9,910,841	77,596,862	5,577,401	(1)	(1)	40,856,329	2,885,373	(2)	(2)	(2)	1,448,067
1879.....	10,853,950	84,081,319	6,288,131	(1)	(1)	45,116,058	3,209,285	(2)	(2)	(2)	1,356,534
1869.....	5,874,222	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)	(3)

¹ Included in "unbleached and uncolored."² Included under "all other manufactures."³ Not reported separately.

In order to compare the statistics of imports of cotton manufactures with those of domestic production, the following table is presented. The totals for imports were compiled from the quarterly statements of imported merchandise entered for consumption, as prepared by the Bureau of Foreign and Domestic Commerce, and relate to the year ending December

31, 1914, instead of to the year ending June 30, as in the preceding table, figures for the fiscal year being the only ones available for a comparison of the imports over a period of years. The figures in Table 49 include with the "declared value" the amount of duty paid; those in the preceding tables show only the declared value.

Table 49	COTTON MANUFACTURES: 1914.			COTTON MANUFACTURES: 1914.	
	Domestic manufactures.	Imports for consumption.		Domestic manufactures.	Imports for consumption.
Total value.....	\$714,612,452	\$72,113,164	Lace and lace curtains, value.....	\$13,479,791	\$42,658,252
Cloths:			Cotton waste:		
Not bleached, etc.—			Pounds.....	318,169,451	19,247,886
Square yards.....	5,083,391,620	3,382,390	Value.....	\$14,448,976	\$981,512
Value.....	\$327,949,850	\$534,219	Yarn, value.....	\$132,912,513	\$4,793,535
Bleached—			Thread, value.....	\$22,917,099	\$2,604,988
Square yards.....	206,910,987	15,617,374	Batting and wadding:		
Value.....	\$19,083,093	\$3,387,472	Pounds.....	10,319,465	76,657
Colored, dyed, or printed—			Value.....	\$1,383,977	\$9,675
Square yards.....	1,187,560,640	39,551,027	Cotton mixed, filled, or coated, and waterproof cloth:		
Value.....	\$107,376,130	\$8,652,852	Square yards.....	(1)	5,450,919
Tapestries (picce goods, curtains, etc.), value....	\$5,848,944	\$2,266,139	Value.....	(1)	\$1,162,594
Pile fabrics:			All other cloths, value.....	(1)	\$483,548
Velvets, corduroys, plushes, etc., value.....	\$9,467,324	\$3,076,090	All other cotton manufactures, value.....	\$49,939,523	\$1,283,849
Toweling and terry weaves, value.....	\$9,805,232	\$218,439			

¹ Included in "all other cotton manufactures."

DETAIL STATE TABLES.

Table 50 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products for cotton manu-

factures as a whole. Table 51 presents, for 1914, by states, more detailed statistics for cotton manufactures as a whole and for each of the industries comprising it.

COTTON MANUFACTURES.

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TABLE 50.—COMPARATIVE SUMMARY, BY STATES: 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States....	1914	1,328	393,404	1,585,953	\$152,423	\$443,523	\$701,301	New Jersey.....	1914	30	7,394	20,987	\$3,287	\$10,116	\$16,782
	1909	1,324	378,880	1,296,517	132,859	371,009	628,392		1909	26	6,638	17,288	2,577	8,565	13,729
	1904	1,154	315,874	986,604	96,206	286,255	450,468		1904	17	5,362	15,518	2,022	5,143	8,579
Alabama.....	1914	57	13,697	48,278	4,206	17,779	25,623	New York.....	1914	51	9,127	38,922	4,240	11,653	18,465
	1909	51	12,731	42,637	3,454	14,373	22,212		1909	47	10,663	33,354	4,166	11,726	20,352
	1904	46	11,480	27,505	2,458	12,011	16,760		1904	33	8,800	25,812	3,071	8,645	13,434
Connecticut.....	1914	50	15,466	65,629	6,982	17,335	30,809	North Carolina.....	1914	293	53,703	245,600	15,796	62,338	90,744
	1909	52	14,360	58,137	5,666	11,960	24,232		1909	281	47,231	164,609	12,131	48,688	72,680
	1904	52	13,111	47,950	4,653	10,203	18,425		1904	212	36,356	92,215	7,504	33,025	47,254
Georgia.....	1914	118	30,719	112,626	8,119	41,210	59,982	Ohio.....	1914	6	478	598	226	361	912
	1909	116	27,803	92,979	7,721	32,049	48,037		1909	4	177	446	52	234	395
	1904	103	24,130	77,435	5,313	23,832	35,174		1904	3	107	365	27	89	154
Illinois.....	1914	7	1,356	3,759	630	1,513	2,779	Pennsylvania.....	1914	155	14,640	23,411	6,676	17,564	32,400
	1909	5	1,319	2,020	522	1,102	2,111		1909	175	16,293	24,589	7,034	18,757	33,917
	1904	3	521	1,666	187	295	613		1904	165	15,263	22,611	5,943	14,322	26,300
Indiana.....	1914	4	961	4,015	365	1,133	1,797	Rhode Island.....	1914	102	29,483	110,289	13,785	28,756	49,719
	1909	7	1,582	5,315	478	1,670	2,502		1909	106	28,786	95,278	11,797	25,401	50,313
	1904	5	1,174	5,250	302	1,140	1,484		1904	99	24,758	75,607	8,890	19,666	34,573
Kentucky.....	1914	4	1,158	3,725	359	1,330	1,991	South Carolina.....	1914	148	46,448	231,220	14,436	53,889	78,446
	1909	4	1,044	3,159	307	1,188	1,902		1909	147	45,454	187,716	11,661	41,303	65,930
	1904	4	1,031	3,085	243	1,165	1,565		1904	127	37,271	133,397	7,702	34,308	49,438
Maine.....	1914	15	13,834	64,404	5,775	13,033	22,122	Tennessee.....	1914	15	3,403	12,311	1,046	4,554	6,486
	1909	16	14,634	53,823	5,718	11,390	21,932		1909	17	3,078	11,129	857	3,344	5,201
	1904	15	12,382	37,236	4,037	9,173	15,406		1904	16	2,294	8,301	531	2,241	3,561
Maryland.....	1914	13	3,424	16,975	1,239	4,452	6,791	Texas.....	1914	12	1,875	5,948	675	2,643	3,755
	1909	16	3,966	13,128	1,139	4,012	5,522		1909	13	1,590	4,835	501	1,793	2,815
	1904	12	3,993	11,995	934	3,873	5,245		1904	13	993	3,452	270	1,018	1,587
Massachusetts.....	1914	189	113,559	438,083	50,706	119,834	197,322	Virginia.....	1914	9	6,310	34,220	2,174	6,057	10,216
	1909	182	108,914	362,043	45,117	105,157	186,462		1909	10	5,057	19,750	1,480	4,699	7,490
	1904	161	88,640	296,244	32,555	80,268	130,069		1904	10	3,456	9,340	884	2,802	4,484
Mississippi.....	1914	11	1,989	5,510	580	1,812	2,789	All other states.....	1914	19	2,711	12,057	1,076	3,371	5,578
	1909	14	2,645	8,045	695	2,042	3,102		1909	14	2,625	12,271	848	2,432	3,954
	1904	14	2,161	5,867	518	1,649	2,463		1904	19	2,860	10,213	789	2,890	4,359
New Hampshire.....	1914	20	21,669	87,386	10,045	22,790	35,793								
	1909	21	22,290	83,966	8,938	19,124	33,602								
	1904	25	19,731	75,540	7,373	18,497	29,541								

¹ Excludes statistics for one establishment, to avoid disclosure of individual operations. These are included in "all other states."

MANUFACTURES.

TABLE 51.—DETAIL STATISTICS FOR COTTON MANUFACTURES, BY

STATE.		Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.			
						Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		
									Maximum month.	Minimum month.							
1	United States.....	1,328	403,911	489	4,564	4,062	1,392	393,404	Ja 404,647	Au 382,702	402,054	214,746	153,519	19,255	14,534	\$899,764,682	
2	Alabama.....	57	14,096	1	207	162	29	13,697	Ap 14,174	Au 13,072	14,503	7,433	4,642	1,313	1,115	33,471,108	
3	Connecticut.....	50	16,086	23	185	261	151	15,466	Se 15,658	No 15,279	15,504	8,731	6,102	312	359	45,926,628	
4	Georgia ³	118	31,486	9	398	301	59	30,719	Ja 31,763	Au 29,259	34,226	18,327	9,514	4,898	1,487	70,705,809	
5	Illinois.....	7	1,448	2	35	34	21	1,356	Ap 1,629	De 1,076	1,389	460	877	27	25	2,182,213	
6	Indiana ³	4	990	.....	15	11	3	961	Ja 1,063	Oc 873	1,028	425	533	18	52	1,696,840	
7	Kentucky.....	4	1,180	1	10	6	5	1,158	Mh 1,188	Jy 1,131	1,146	507	630	6	3	1,708,240	
8	Maine.....	15	13,979	.....	74	61	10	13,834	Fe 14,364	De 13,272	13,898	7,242	6,221	232	203	31,289,577	
9	Maryland.....	13	3,589	.....	67	76	22	3,424	De 3,804	Jy 3,204	3,847	1,927	1,655	117	148	8,731,698	
10	Massachusetts.....	189	115,684	35	901	808	381	113,559	Ja 118,455	Au 109,008	114,841	59,663	50,658	2,389	2,131	256,858,720	
11	Michigan.....	3	42	2	3	3	3	31	Ja ⁴ 32	Se ⁴ 30	33	9	23	1	.....	53,811	
12	Mississippi.....	11	2,059	.....	42	23	5	1,989	Fe 2,053	Au 1,902	2,042	1,026	822	124	70	3,837,231	
13	New Hampshire.....	20	21,958	4	63	175	47	21,669	Fe 21,930	Oc 21,185	21,349	12,006	9,223	54	66	33,009,169	
14	New Jersey.....	30	7,695	16	91	150	44	7,394	My 7,672	No 7,082	7,391	3,314	3,665	144	268	21,459,981	
15	New York.....	51	9,511	35	125	154	70	9,127	Ja 10,479	Se 8,045	9,240	5,204	3,873	122	41	24,426,379	
16	North Carolina.....	293	55,206	33	953	401	116	53,703	Ja 54,680	Se 52,451	54,218	29,994	17,005	3,914	3,305	80,065,283	
17	Ohio.....	6	518	1	14	17	8	478	Mh 505	Je 438	463	187	276	.....	.....	940,465	
18	Pennsylvania.....	155	15,785	136	364	481	164	14,640	My 15,264	No 13,971	14,606	6,562	7,023	372	649	34,421,878	
19	Rhode Island.....	102	30,271	37	293	323	135	29,483	Mh 30,306	No 28,372	29,576	15,185	12,735	768	888	77,015,844	
20	South Carolina.....	148	47,730	151	572	468	91	46,448	Ja 47,772	Se 45,031	47,554	27,735	12,561	3,937	3,321	134,430,465	
21	Tennessee.....	15	3,484	.....	44	31	6	3,403	Oc 3,473	Mh 3,334	3,454	1,721	1,374	192	167	7,142,847	
22	Texas.....	12	1,933	.....	34	18	6	1,875	De 1,960	Fe 1,811	1,981	1,274	641	37	29	5,252,899	
23	Vermont.....	4	1,025	.....	18	10	5	992	De 1,025	Ja 939	1,038	632	400	5	1	2,570,201	
24	Virginia.....	9	6,379	.....	23	44	2	6,310	De 6,713	Au 5,857	6,817	4,431	2,088	169	129	18,437,898	
25	All other states ⁵	12	1,777	3	33	44	9	1,688	.....	.....	1,910	751	978	104	77	4,129,498	
COTTON MANUFACTURES.																	
1	United States.....	1,179	388,726	409	4,234	3,553	1,164	379,366	Ja 389,980	Au 369,138	388,297	209,186	146,061	19,012	14,038	\$867,043,678	
2	Alabama.....	57	14,096	1	207	162	29	13,697	Ap 14,174	Au 13,072	14,503	7,433	4,642	1,313	1,115	33,471,108	
3	Connecticut.....	44	15,661	19	172	244	133	15,093	My 15,277	No 14,856	15,053	8,531	5,871	309	342	44,959,508	
4	Georgia.....	118	31,486	9	398	301	59	30,719	Ja 31,763	Au 29,259	34,226	18,327	9,514	4,898	1,487	70,705,809	
5	Illinois.....	4	990	.....	15	11	3	961	Ja 1,063	Oc 873	1,028	425	533	18	52	1,696,840	
6	Kentucky.....	4	1,180	1	10	6	5	1,158	Mh 1,188	Jy 1,131	1,146	507	630	6	3	1,708,240	
7	Maine.....	15	13,979	.....	74	61	10	13,834	Fe 14,364	De 13,272	13,898	7,242	6,221	232	203	31,289,577	
8	Maryland.....	13	3,589	.....	67	76	22	3,424	De 3,804	Jy 3,204	3,847	1,927	1,655	117	148	8,731,698	
9	Massachusetts.....	165	114,639	25	864	798	363	112,609	Ja 117,496	Au 108,096	113,902	59,310	50,160	2,338	2,094	255,153,889	
10	Michigan.....	3	42	2	3	3	3	31	Ja 32	Se ⁴ 30	33	9	23	1	.....	53,811	
11	Mississippi.....	11	2,059	.....	42	23	5	1,989	Fe 2,053	Au 1,902	2,042	1,026	822	124	70	3,837,231	
12	New Hampshire.....	16	21,870	3	59	173	46	21,589	Fe 21,863	Oc 21,086	21,245	11,946	9,179	54	66	32,865,897	
13	New Jersey.....	21	7,409	9	85	129	42	7,144	My 7,432	No 6,824	7,126	3,169	3,557	138	262	20,885,548	
14	New York.....	30	8,061	12	96	110	43	7,800	Ja 9,112	Se 6,759	7,920	4,482	3,302	115	21	20,834,471	
15	North Carolina.....	293	55,206	33	953	401	116	53,703	Ja 54,680	Se 52,451	54,218	29,994	17,005	3,914	3,305	80,065,283	
16	Pennsylvania.....	116	9,813	117	238	208	92	9,158	My 9,581	Fe 8,895	9,352	4,704	4,011	253	384	18,719,177	
17	Rhode Island.....	65	25,803	21	221	231	73	25,257	Ap 25,798	No 24,505	25,430	13,363	10,595	721	751	68,741,060	
18	South Carolina.....	148	47,730	151	572	468	91	46,448	Ja 47,772	Se 45,031	47,554	27,735	12,561	3,937	3,321	134,430,465	
19	Tennessee.....	15	3,484	.....	44	31	6	3,403	Oc 3,473	Mh 3,334	3,454	1,721	1,374	192	167	7,142,847	
20	Texas.....	12	1,933	.....	34	18	6	1,875	De 1,960	Fe 1,811	1,981	1,274	641	37	29	5,252,899	
21	Vermont.....	4	1,025	.....	18	10	5	992	De 1,025	Ja 939	1,038	632	400	5	1	2,570,201	
22	Virginia.....	9	6,379	.....	23	44	2	6,310	De 6,713	Au 5,857	6,817	4,431	2,088	169	129	18,437,898	
23	All other states ⁶	16	2,272	6	39	45	10	2,172	.....	.....	2,484	998	1,277	121	88	5,490,221	
COTTON GOODS.																	
1	United States.....	41	8,123	10	162	380	131	7,440	Mh 8,182	De 6,612	7,306	3,179	3,779	135	213	\$20,956,509	
2	New York.....	10	1,182	6	22	38	21	1,095	Mh 1,184	Jy 1,008	1,088	627	435	6	20	3,036,225	
3	Pennsylvania.....	13	3,970	3	79	232	54	3,602	Fe 3,993	No 3,148	3,458	1,373	1,855	98	132	12,404,430	
4	Rhode Island.....	9	1,452	.....	20	47	28	1,357	Mh 1,587	De 885	1,341	620	643	27	51	3,122,216	
5	All other states ⁷	9	1,519	1	41	63	28	1,386	.....	.....	1,419	559	846	4	10	2,393,638	
COTTON LACE.																	
1	United States.....	108	7,062	70	168	129	97	6,598	Ap 6,896	De 6,344	6,451	2,381	3,679	108	283	\$11,764,495	
2	Massachusetts.....	24	1,025	10	37	10	18	950	Mh 1,015	De 874	939	353	498	51	37	1,704,831	
3	New York.....	11	268	17	7	6	6	232	Fe 259	Au 189	232	95	136	1	.....	555,683	
4	Pennsylvania.....	26	2,002	16	47	41	18	1,880	Ap 1,972	De 1,767	1,796	485	1,157	21	133	3,268,271	
5	Rhode Island.....	28	3,016	16	52	45	34	2,869	Ap 2,989	Au 2,779	2,805	1,202	1,497	20	86	5,152,568	
6	All other states ⁸	19	751	11	25	27	21	667	.....	.....	679	246	391	15	27	1,053,142	
COTTON SMALL WARES.																	

¹ Owned power only.² Includes rented power, other than electric.³ Excludes statistics for one establishment, to avoid disclosure of individual operations. These are included in "all other states".⁴ Same number reported for one or more other months.⁵ All other states embrace: Arkansas, 2 establishments; Delaware, 1; Louisiana, 2; Missouri, 3; Wisconsin, 2; and 2 establishments in certain states statistics for which can not be shown separately without disclosing individual operations.

INDUSTRIES AND STATES: 1914.

EXPENSES.								POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.		Value of products.	Value added by manufacture.	Primary horsepower.				Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal-combustion engines. ²	Water wheels and motors. ¹	Electric (rented).

COTTON MANUFACTURES.

\$11,919,839	\$5,480,161	\$152,422,599	\$1,614,636	\$552,030	\$7,857,807	\$425,661,775	\$17,860,740	\$701,300,933	\$257,778,418	1,585,953	1,011,303	7,576	314,219	252,864	260,039	1
436,585	154,462	4,206,039	155	8,521	186,863	17,216,356	562,714	25,622,583	7,843,513	48,278	34,704	20	7,721	5,833	3,173	2
633,427	400,951	6,982,144	388,255	48,229	286,768	16,800,362	534,516	30,808,918	13,474,040	65,629	37,954	1,427	25,107	1,141	6,922	3
896,253	347,682	8,118,917	55,772	1,290	487,783	39,831,150	1,378,424	59,982,008	18,772,434	112,626	67,803	4	21,986	22,833	11,626	4
69,760	45,585	629,807	.....	20,780	14,338	1,464,523	48,012	2,778,706	1,266,171	3,759	3,729	.....	.....	30	629	5
32,420	16,342	364,607	.....	.....	16,476	1,093,098	40,462	1,796,581	663,021	4,015	4,015	.....	.....	.....	1,571	6
27,900	10,133	359,460	368	1,200	21,389	1,301,189	28,798	1,991,346	661,359	3,725	3,550	.....	175	.....	.....	5
258,961	88,181	5,775,092	224,608	915	325,975	12,601,554	431,415	22,121,711	9,088,742	64,404	26,923	.....	34,084	3,397	15,323	8
145,894	77,671	1,239,282	.....	50,486	49,603	4,322,267	130,058	6,790,935	2,338,610	16,975	9,708	.....	2,662	4,605	1,110	9
3,084,402	1,230,918	50,706,040	177,250	31,564	3,380,867	114,849,907	4,984,427	197,322,111	77,487,777	438,083	354,500	2,026	64,147	17,410	98,166	10
2,100	3,492	13,863	.....	3,650	575	113,047	1,628	148,665	33,990	80	.....	8	.....	72	.....	11
63,131	31,874	580,491	1,000	.....	19,991	1,733,739	78,261	2,789,007	977,007	5,510	5,364	11	.....	135	627	12
374,091	278,499	10,045,250	.....	2,545	388,427	21,984,536	805,053	35,793,044	13,003,455	87,386	51,201	300	32,534	3,351	31,283	13
318,711	197,872	3,286,788	13,881	16,488	120,921	9,826,768	288,766	16,782,164	6,666,630	20,987	17,728	107	640	2,512	1,839	14
375,982	222,125	4,210,422	30,342	30,835	205,812	11,185,087	468,351	18,464,811	6,811,373	38,922	24,245	165	11,690	2,822	9,511	15
1,601,139	401,731	15,795,742	205,464	13,994	667,590	59,241,752	3,096,670	90,743,683	28,405,261	245,600	108,577	555	30,913	105,555	15,431	16
31,660	39,887	226,412	.....	4,744	9,226	354,364	7,001	912,189	550,824	598	405	128	40	25	120	17
942,118	856,561	6,676,104	352,737	278,805	98,973	17,132,266	431,262	32,400,446	14,836,918	23,411	19,276	2,081	231	1,823	3,044	18
970,300	468,438	13,784,568	119,170	32,739	583,428	27,587,323	1,168,986	49,718,837	20,962,528	110,289	79,885	435	24,206	5,763	21,254	19
1,285,675	399,106	14,436,181	36,952	480	779,228	51,111,072	2,778,082	78,446,145	24,556,991	231,220	121,850	200	40,571	68,599	20,770	20
93,268	35,584	1,045,920	5,682	17	34,197	4,412,106	141,963	6,485,640	1,931,571	12,311	9,428	.....	225	2,658	687	21
65,816	20,562	674,724	2,000	.....	29,844	2,515,336	127,852	3,754,785	1,111,597	5,948	5,445	.....	.....	503	30	22
34,368	9,345	450,152	.....	.....	15,484	891,442	60,819	1,558,974	606,713	4,933	2,613	.....	1,350	970	3	23
119,800	89,142	2,174,057	.....	.....	111,723	5,864,500	192,801	10,216,185	4,158,884	34,220	18,210	.....	15,277	733	15,736	24
56,078	54,018	610,537	1,000	4,748	22,326	2,228,031	74,419	3,871,459	1,569,009	7,044	4,190	100	660	2,094	1,179	25

COTTON GOODS.

\$10,962,344	\$4,587,787	\$146,129,628	\$1,483,770	\$405,753	\$7,690,276	\$114,137,808	\$17,464,732	\$676,569,115	\$244,966,575	1,566,757	998,089	6,525	312,123	250,020	255,539	1
436,585	154,462	4,206,039	155	8,521	186,863	17,216,356	562,714	25,622,583	7,843,513	48,278	34,704	20	7,721	5,833	3,173	2
583,972	376,628	6,801,030	388,236	42,709	281,543	16,611,661	523,384	30,191,480	13,056,435	64,655	37,954	1,427	24,315	959	6,887	3
896,253	347,682	8,118,917	55,772	1,290	487,783	39,831,150	1,378,424	59,982,008	18,772,434	112,626	67,803	4	21,986	22,833	11,626	4
32,420	16,342	364,607	.....	.....	16,476	1,093,098	40,462	1,796,581	663,021	4,015	4,015	.....	.....	.....	1,571	5
27,900	10,133	359,460	368	1,200	21,389	1,301,189	28,798	1,991,346	661,359	3,725	3,550	.....	175	.....	.....	6
258,961	88,181	5,775,092	224,608	915	325,975	12,601,554	431,415	22,121,711	9,088,742	64,404	26,923	.....	34,084	3,397	15,323	7
145,894	77,671	1,239,282	.....	50,486	49,603	4,322,267	130,058	6,790,935	2,338,610	16,975	9,708	.....	2,662	4,605	1,110	8
3,012,919	1,207,136	50,299,559	158,943	22,538	3,364,607	113,786,230	4,941,022	195,481,626	76,754,374	436,423	354,063	1,834	63,921	16,605	98,166	9
2,100	3,492	13,863	.....	3,650	575	113,047	1,628	148,665	33,990	80	.....	8	.....	72	.....	10
63,131	31,874	580,491	1,000	.....	19,991	1,733,739	78,261	2,789,007	977,007	5,510	5,364	11	.....	135	627	11
369,435	277,305	10,006,112	.....	.....	387,959	21,937,191	803,349	35,679,660	12,939,120	87,235	51,151	300	32,469	3,315	31,283	12
306,751	167,559	3,149,017	12,225	9,206	118,906	9,671,836	279,136	16,317,490	6,366,518	20,617	17,561	28	640	2,388	1,839	13
257,808	157,115	3,575,023	30,342	18,310	192,627	10,002,667	434,249	15,671,038	5,234,122	37,220	22,835	110	11,650	2,625	8,701	14
1,601,139	401,731	15,795,742	205,464	13,994	667,590	59,241,752	3,096,670	90,743,683	28,405,261	245,600	108,577	555	30,913	105,555	15,431	15
539,795	367,877	4,409,928	271,469	218,323	48,215	12,425,039	299,184	22,408,007	9,683,784	16,870	13,571	1,751	231	1,317	712	16
760,536	293,224	11,829,890	89,554	9,570	517,969	24,505,961	1,031,838	43,267,652	17,729,863	103,642	75,265	134	23,333	4,910	20,570	17
1,285,675	399,106	14,436,181	36,952	480	779,228	51,111,072	2,778,082	78,446,145	24,556,991	231,220	121,850	200	40,571	68,599	20,770	18
93,268	35,584	1,045,920	5,682	17	34,197	4,412,106	141,963	6,485,640	1,931,571	12,311	9,428	.....	225	2,658	687	19
65,816	20,562	674,724	2,000	.....	29,844	2,515,336	127,852	3,754,785	1,111,597	5,948	5,445	.....	.....	503	30	20
34,368	9,345	450,152	.....	.....	15,484	891,442	60,819	1,558,974	606,713	4,933	2,613	.....	1,350	970	3	21
119,800	89,142	2,174,057	.....	.....	111,723	5,864,500	192,801	10,216,185	4,158,884	34,220	18,210	.....	15,277	733	15,736	22
67,818	55,636	824,542	1,000	4,544	31,729	2,948,615	102,623	5,103,904	2,052,666	10,250	7,499	143	600	2,008	1,289	23

COTTON LACE.

\$533,548	\$677,428	\$3,468,081	\$47,896	\$30,632	\$87,775	\$5,498,146	\$178,802	\$13,206,785	\$7,529,837	9,096	6,594	315	972	1,215	3,521	1
81,849	51,542	538,202	.....	7,165	10,049	874,748	25,933	2,194,088	1,293,407	1,428	1,270	16	40	102	810	2
278,504	423,894	1,528,155	18,411	5,396	41,957	2,946,693	91,243	6,534,485	3,496,549	4,743	4,374	49	.....	320	2,020	3
76,980	101,822	689,336	29,466	10,991	19,599	800,125	31,216	2,056,962	1,225,621	1,315	420	250	120	525	126	4
96,215	100,170	712,388	19	7,080	16,170	876,580	30,410	2,421,250	1,514,260	1,610	530	.....	812	268	565	5

COTTON SMALL WARES.

\$423,947	\$214,946	\$2,824,890	\$82,970	\$115,645	\$79,756	\$6,025,821	\$217,206	\$11,525,033	\$5,282,006	10,100	6,620	727	1,124	1,629	979	1
71,483	23,782	406,481	18,307	9,026	16,260	1,063,677	43,405	1,840,485	733,403	1,660	437	192	226	805	.....	2
36,325	13,468	127,197	.....	5,360	3,136	307,672	8,169	599,685	283,844	274	140	39	.....	95	.....	3
123,819	64,790	738,021	62,857	55,086	8,801	1,760,534	40,835	3,457,954	1,656,585	1,798	1,331	281	.....	156	312	4
132,784	73,392	1,265,342	150	12,178	45,860	2,231,237	105,932	4,394,213	2,007,044	5,332	4,200	51	753	328	558	5
59,536	39,514	287,849	1,656	33,995	5,699	612,701	18,865	1,232,696	601,130	1,036	512	164	145	215	109	6

* All other states embrace: Arkansas, 2 establishments; Delaware, 1; Illinois, 1; Louisiana, 2; Missouri, 2; Ohio, 3; and Wisconsin, 2.

* All other states embrace: Connecticut, 3 establishments; Illinois, 1; Missouri, 1; New Hampshire, 2; New Jersey, 1; and Ohio, 1.

* All other states embrace: Connecticut, 3 establishments; Georgia, 1; Illinois, 2; Indiana, 1; New Hampshire, 2; New Jersey, 8; and Ohio, 2.

WOOL MANUFACTURES.

By CLYTUS A. FREEMAN.¹

SUMMARY AND ANALYSIS.

Scope of the report.—This report presents statistics for establishments engaged in the manufacture of (1) woolen (carded wool) goods, (2) worsted (combed wool) goods, (3) carpets and rugs, other than rag, (4) felt goods, and (5) wool-felt hats. At the census of 1904, and at prior censuses, this same grouping was followed, but in 1909, the figures for the "carpet and rug" industry were published separately from those for "woolen, worsted, and felt goods, and wool-felt hats." Statistics for the five industries combined are herein presented, many of the tables giving separate figures for each industry as well. Wool pulling, wool scouring, and the recovery of wool from rags, tailors' clippings, and mill waste, commonly known as shoddy, represent processes in the manufacture of wool, rather than the production of finished goods, and statistics for these industries are presented separately.

Of the five groups of industries engaged in the manufacture of textile fabrics—cotton, wool, and silk manufactures, hosiery and knit goods, and cordage and twine, jute goods, and linen goods—wool manufactures ranked second, the value of its products representing 26.4 per cent of the total value of products of the five groups combined. Wool manufactures occupied a less important place among the groups of textile industries in 1914 than at previous censuses, however, the value of its products being less than in 1909, while the value of the products of each of the other groups was much greater than the five years before.

Summary for the five industries in this group: 1914.—Table 1 presents for 1914 a summary of wool manufactures as a whole and of each of the industries which forms a part of the group, together with the per cent of the total contributed by each of the industries.

Table 1	WOOL MANUFACTURES: 1914.										
	Total for the industry.	Establishments engaged primarily in manufacturing—					Per cent of total contributed by establishments engaged primarily in manufacturing—				
		Woolen goods.	Worsted goods.	Carpets and rugs.	Felt goods.	Wool-felt hats.	Woolen goods.	Worsted goods.	Carpets and rugs.	Felt goods.	Wool-felt hats.
Number of establishments.....	979	501	298	97	53	30	51.2	30.4	9.9	5.4	3.1
Persons engaged.....	203,716	51,631	113,059	33,101	4,553	1,372	25.3	55.5	16.2	2.2	0.7
Proprietors and firm members.....	578	316	141	72	11	38	54.7	24.4	12.5	1.9	6.5
Salaried employees.....	7,853	2,150	3,391	1,720	507	85	27.3	43.2	21.9	6.5	1.1
Wage earners (average number).....	195,285	49,165	109,527	31,309	4,035	1,249	25.2	56.1	16.0	2.1	0.6
Primary horsepower.....	442,330	134,597	246,623	43,963	14,056	3,091	30.4	55.8	9.9	3.2	0.7
Capital.....	\$497,699,293	\$107,871,742	\$281,780,836	\$85,153,828	\$20,284,048	\$2,608,839	21.7	56.6	17.1	4.1	0.5
Salaries and wages.....	108,009,668	27,726,892	58,772,968	17,589,293	3,173,384	747,131	25.7	54.4	16.3	2.9	0.7
Salaries.....	14,651,788	3,522,413	7,024,003	2,873,678	1,084,141	147,553	24.0	47.9	19.6	7.4	1.0
Wages.....	93,357,880	24,204,479	51,748,965	14,715,615	2,089,243	599,578	25.9	55.4	15.8	2.2	0.6
Paid for contract work.....	2,456,260	395,915	1,714,838	341,286	4,121	100	16.1	69.8	13.9	0.2	(¹)
Rent and taxes (including internal revenue).....	3,922,866	937,255	2,306,957	508,149	125,974	44,531	23.9	58.8	13.0	3.2	1.1
Cost of materials.....	298,063,498	63,696,042	182,800,624	42,280,223	8,308,270	978,339	21.4	61.3	14.2	2.8	0.3
Value of products.....	464,249,813	103,815,905	275,668,474	69,128,185	13,692,765	1,944,484	22.4	59.4	14.9	2.9	0.4
Value added by manufacture (value of products less cost of materials).....	166,186,315	40,119,863	92,867,850	26,847,962	5,384,495	966,145	24.1	55.9	16.2	3.2	0.6

¹ Less than one-tenth of 1 per cent.

The five branches of wool manufactures are coordinate—that is, no industry of the group is engaged primarily in preparing materials for any other industry. There are in these industries, as in many other lines of manufacture, duplications in the cost of materials and value of products. This is due to the fact that some establishments in the industries sell to other wool-manufacturing establishments such partly manufactured products as tops and yarns, and also waste and noils which are rejections from the manufacture of tops and yarns but good material for use in the

manufacture of carded-wool goods, including felts and wool-felt hats. The value of such products, if reported as sold, is not only included in the value of products of the establishments reporting them as products, but also enters into the value of products of the establishments using them as materials; while the cost of the materials from which they were made con-

¹ The suggestions and advice of Mr. Wm. J. Battison, of the National Association of Wool Manufacturers, Boston, Mass., were of much assistance in the preparation of this report and are hereby gratefully acknowledged.

stitutes part of the cost of materials of the establishments manufacturing them and also enters into the cost of materials of the establishments using these products as materials for further manufacture.¹

Comparison with earlier censuses.—Table 2 summarizes the statistics of establishments engaged in wool manufactures for each census from 1869 to 1914, and gives percentages of increase.

Table 2

	WOOL MANUFACTURES.							Per cent of increase. ¹					
	Number or amount.												
	1914	1909	1904	1899	1889	1879	1869	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	979	1,124	1,213	1,414	1,693	2,330	3,208	-12.9	-7.3	-14.2	-16.5	-27.3	-27.4
Persons engaged.....	203,716	209,882	186,699	164,713	(2)	(2)	(2)	-2.9	12.4	13.3	.....	.....	.....
Proprietors and firm members.....	578	866	1,107	1,110	(2)	(2)	(2)	-33.3	-21.8	-0.3	.....	.....	.....
Salaried employees.....	7,853	6,987	5,616	4,495	(2)	(2)	(2)	12.4	24.4	24.9	.....	.....	.....
Wage earners (average number).....	195,285	202,029	179,976	159,108	154,271	132,672	105,071	-3.3	12.3	13.1	(3)	(3)	(3)
Primary horsepower.....	442,330	400,762	322,914	271,565	210,642	140,058	(2)	10.4	24.1	18.9	28.9	50.4	.....
Capital.....	\$497,699,293	\$506,205,584	\$370,861,691	\$310,179,749	\$245,886,743	\$143,512,278	\$121,451,059	-1.7	36.5	19.6	26.1	71.3	18.2
Salaries and wages.....	108,009,668	100,268,868	78,974,869	64,389,312	58,397,470	40,687,612	35,928,150	7.7	27.0	22.7	10.3	43.5	13.2
Salaries.....	14,651,788	12,306,199	8,177,345	6,455,495	(2)	(2)	(2)	19.1	50.5	26.7	.....	.....	.....
Wages.....	93,357,880	87,962,669	70,797,524	57,933,817	(2)	(2)	(2)	6.1	24.2	22.2	.....	.....	.....
Paid for contract work.....	2,456,260	3,629,257	1,220,708	1,749,222	(2)	(2)	(2)	-32.3	197.3	-30.2	.....	.....	.....
Rent and taxes (including internal revenue).....	3,922,866	2,925,922	4,235,150	4,200,374	(2)	(2)	(2)	34.1	24.1	17.4	.....	.....	.....
Cost of materials.....	298,063,498	322,441,043	242,561,096	181,159,127	167,233,987	149,160,600	124,318,792	-7.6	32.9	33.9	8.3	12.1	20.0
Value of products.....	464,249,813	507,166,710	380,934,003	296,990,484	270,527,511	238,085,686	199,257,262	-8.5	33.1	28.3	9.8	13.6	19.5
Value added by manufacture (value of products less cost of materials).....	166,186,315	184,725,667	138,372,907	115,831,357	103,293,524	88,925,086	74,938,470	-10.0	33.5	19.5	12.1	16.2	18.7

¹ A minus sign (—) denotes decrease.

² Figures not available.

³ Figures not strictly comparable.

⁴ Exclusive of internal revenue.

The number of establishments in wool manufactures has steadily declined since 1869, when 3,208

were reported. This decrease is partially due to the consolidation of establishments, resulting in the

¹ The total value of woolen, worsted, and merino yarn produced for sale (\$84,090,269) exceeded by a large margin the cost of such yarn purchased for use as material (\$56,456,572). Some imported wool yarn and some which was spun on commission for merchants and dealers was undoubtedly included in the purchased yarn used by wool manufactories, so that, while the maximum possible duplication due to the use of purchased yarn would be as much as \$56,456,572, the actual duplication was probably somewhat less. This duplication results chiefly from two circumstances. To the extent that carpet and rug factories buy their woolen and worsted yarn from spinning mills classed in the woolen or worsted industries, there is a duplication in the cost of materials and value of products for the group as a whole. Within the woolen-goods and worsted-goods industries, moreover, and particularly in the latter, there is duplication by reason of the use of the yarn produced in some mills as materials for other mills.

A larger amount of wool waste and noils was reported among the products than among the materials; so it may be assumed that the cost of the waste and noils used as a material in wool manufactures (\$10,616,633), represents the duplication in this item. The production and consumption of tops also involved some duplication. The value of the tops reported as made for sale (\$4,926,929) represented only a small part of the cost of the purchased tops used during the year (\$16,707,322). This apparent discrepancy can be accounted for by the imports and by the tops spun on commission for merchants and dealers. The duplication involved would, therefore, amount only to the value of the tops made for sale.

The figures for contract work shown in Table 1 amount to \$2,456,260, while Table 30 shows that the receipts by wool-manufacturing establishments from work done for others amounted to \$3,493,383. A part of the payments by wool-manufacturing establishments for contract work was made to dyeing and finishing establishments for which statistics are shown in a separate report, and a part of the receipts reported by wool-manufacturing establishments for work done for others came from establishments in other industries, or from dealers and merchants who made no report to the census. A certain amount of duplication results from the fact that some spinning and weaving (and some dyeing and finishing, as well) was done by wool-manufacturing establishments for other mills making products of wool. It is impossible to state the extent of this duplication, but it can not exceed the amount paid for contract work by wool-manufacturing establishments (\$2,456,260), and it is probably somewhat less than this.

The duplication as indicated may be summarized as follows:

Yarn.....	\$56,457,000
Waste.....	10,617,000
Tops.....	4,927,000
Contract work.....	2,456,000
Total.....	74,457,000

This represents what may be called the maximum possible duplication in wool manufactures, and it amounts to 16 per cent of the

total value of products (\$464,249,813). The actual duplication is undoubtedly somewhat less, but there are several factors which make it impossible to give a more accurate computation than that above. For one thing, the products reported are those made for sale during the year, while the materials are those actually used. There may be during any year a considerable quantity of some partially finished product made for sale but not used; and, on the other hand, there may be a greater quantity of these partly finished products used during the year than there were made during that year, the difference being accounted for by the decrease in stock on hand at the end of the year as compared with that on hand at its beginning. Stocks in transit also come under this head.

Some partially manufactured products are imported, but how much of these are used in wool manufactures and how much used in other textile mills it is impossible to determine. Some of these products, especially tops, are made on commission for dealers and merchants from whom the Census Bureau secured no reports, and consequently they do not appear in the total products. The following is a complete statement of the items involving duplication, together with the amounts of these materials secured by importation, and the amounts used as materials in other lines of textile manufacture:

MATERIALS.

Purchased woolen, worsted, and merino yarn:	Pounds.	Value.
Used in wool manufactures.....	87,404,089	\$56,456,572
Used in manufacture of cotton, silk, and hosiery and knit goods.....	28,428,802	21,108,887
Total.....	115,832,891	77,565,459
Purchased waste and noils:		
Used in wool manufactures.....	50,350,387	10,616,633
Used in manufacture of hosiery and knit goods.....	5,946,337	1,827,122
Total.....	56,296,724	12,443,755
Purchased tops used in wool manufactures.....	29,177,790	16,707,322
Partially manufactured products available for further use in manufacture.		
Woolen, worsted, and merino yarn:		
Produced for sale.....	124,351,215	\$84,090,269
Imported.....	4,760,610	3,946,484
Total.....	129,111,825	88,036,753
Waste and noils:		
Produced for sale.....	54,020,789	10,412,780
Imported.....	2,746,172	594,184
Total.....	56,766,961	11,006,964
Tops:		
Produced for sale.....	8,985,170	4,926,929
Imported.....	6,180,632	3,182,628
Total.....	15,165,802	8,109,557

steadily increasing predominance of large corporations. It is also the result of the disappearance of a very large number of carding mills throughout the country. These were the mills containing perhaps one set of cards operated frequently in connection with a saw-mill or a gristmill but reported in earlier days as a part of the wool-manufacturing industry. In each census report since that of 1869 there has been a very material decrease in the number of such establishments. At the present time the number of mills engaged exclusively in carding is very small.

Summary, by states.—Table 3 summarizes the more important statistics of wool manufactures, by states, the states being arranged according to the value of products reported for 1914. The rank of the states in 1914 and 1909, the per cent distribution for 1914, and the percentages of increase for each five-year period beginning with 1899 are also presented.

In certain states the data for some establishments were omitted in order to avoid the disclosure of individual operations.

Table 3

WOOL MANUFACTURES.

STATE.	Number of establishments.	Census of 1914.									Per cent of increase. ¹								
		Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number).			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
United States.....	979	195,285	.....	.....	\$464,249,813	.....	.....	\$166,186,315	.....	.....	-3.3	12.3	13.1	-8.5	33.1	28.3	-10.0	33.5	19.5
Massachusetts ²	183	59,574	30.5	1	141,329,858	30.4	1	51,584,155	31.0	1	-0.7	20.2	17.8	-7.9	40.8	35.3	13.0	46.4	24.7
Pennsylvania.....	266	34,030	17.4	2	87,508,317	18.8	2	28,561,119	17.2	2	-12.6	2.5	1.1	-14.5	23.2	15.6	-13.6	13.5	8.8
Rhode Island ³	80	22,745	11.6	3	60,888,755	13.1	3	19,153,956	11.5	3	-8.7	15.3	21.0	-18.4	41.7	34.8	-18.8	41.1	19.7
New York.....	65	21,092	10.8	4	47,173,617	10.2	4	18,491,288	11.1	4	-1.2	6.7	11.1	-4.4	26.9	26.2	-13.1	25.0	17.9
New Jersey ³	35	15,336	7.9	5	38,491,162	8.3	5	14,069,957	8.5	5	13.3	33.5	23.1	7.3	97.8	31.5	0.8	113.5	23.2
Maine ²	57	7,998	4.1	7	17,531,470	3.8	6	6,708,354	4.0	6	-6.5	-2.5	22.0	-2.6	2.4	31.1	-2.4	-0.5	23.8
Connecticut ⁴	53	7,350	3.8	8	17,128,975	3.7	7	6,365,465	3.8	7	-5.6	4.8	9.4	-11.5	25.1	24.1	-2.5	18.6	16.7
New Hampshire.....	40	9,532	4.9	6	15,039,284	3.2	8	4,952,463	3.0	8	0.5	44.1	20.5	-10.1	17.1	37.6	-12.1	17.3	28.3
Ohio ²	12	2,959	1.5	9	7,232,834	1.6	9	3,771,284	2.3	9	.....	.....	.....	.....	.....	.....	.....	.....	.....
Vermont.....	17	2,226	1.1	10	4,634,593	1.0	10	1,645,981	1.0	10	-3.0	2.6	43.5	3.1	-4.3	66.5	1.7	-15.0	74.7
Wisconsin ²	22	795	0.4	12	1,955,742	0.4	11	696,266	0.4	12	.....	.....	.....	.....	.....	.....	.....	.....	.....
Oregon.....	7	648	0.3	15	1,701,587	0.4	12	758,601	0.5	11	38.2	-21.2	-15.8	83.2	-18.7	15.1	88.8	-25.3	24.5
Tennessee.....	17	1,069	0.5	11	1,546,591	0.3	13	623,277	0.4	13	-35.4	16.9	-13.3	-14.2	5.6	12.5	7.7	-11.3	18.4
Indiana ³	10	719	0.4	13	1,522,027	0.3	14	531,253	0.3	14	-7.3	-21.9	-6.4	-3.1	-1.7	7.4	3.3	-23.3	-2.6
Minnesota ³	16	448	0.2	18	1,297,654	0.3	15	448,143	0.3	15	61.7	-19.2	14.3	85.8	-11.6	59.2	66.1	-17.7	45.8
Michigan.....	9	477	0.2	17	1,215,467	0.3	16	422,730	0.3	16	-13.9	-11.2	-21.9	-22.6	17.4	34.3	-40.3	30.8	52.3
All other states.....	90	8,287	4.3	.....	18,051,880	3.9	.....	7,502,023	4.5	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Percentages are based on figures in Table 53; a minus sign (—) denotes decrease; percentages are omitted where comparable figures can not be given.

² Excludes statistics for two establishments, to avoid disclosure of individual operations.

³ Excludes statistics for one establishment, to avoid disclosure of individual operations.

⁴ Excludes statistics for three establishments, to avoid disclosure of individual operations.

While wool manufactures are largely concentrated in the New England and Middle Atlantic states, establishments were reported from 32 states of the Union. Only 40 establishments were located west of the Mississippi and 60 south of the Ohio and Potomac. Massachusetts was by far the most important state in wool manufactures, having reported in 1914 almost one-third of the total value of products. Pennsylvania ranked second in 1914, 1909, and 1904 in number of wage earners and value of products, while Rhode Island ranked third.

The distribution of the number of establishments in 1914, by states, is presented graphically in the map on the following page.

Sixteen counties (considering Greater New York as one county) reported more than 10 establishments each. They are indicated on the map by means of a square.

These counties, together with the number of establishments in each county, are:

Somerset County, Me.....	12	Washington County, R. I....	11
Essex County, Mass.....	26	Windham County, Conn....	11
Middlesex County, Mass....	30	New London County, Conn.	13
Norfolk County, Mass.....	13	Tolland County, Conn.....	17
Worcester County, Mass....	78	Greater New York, N. Y....	12
Hampden County, Mass....	12	Philadelphia, Pa.....	188
Berkshire County, Mass....	12	Montgomery County, Pa....	15
Providence, R. I.....	66	Delaware County, Pa.....	12

Persons engaged in the industry.—Table 4 shows, for 1914 and 1909, the number of persons engaged in the industry group as a whole, and in each of the five industries separately, distributed according to occupational status and sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

WOOL MANUFACTURES—LOCATION OF ESTABLISHMENTS: 1914.

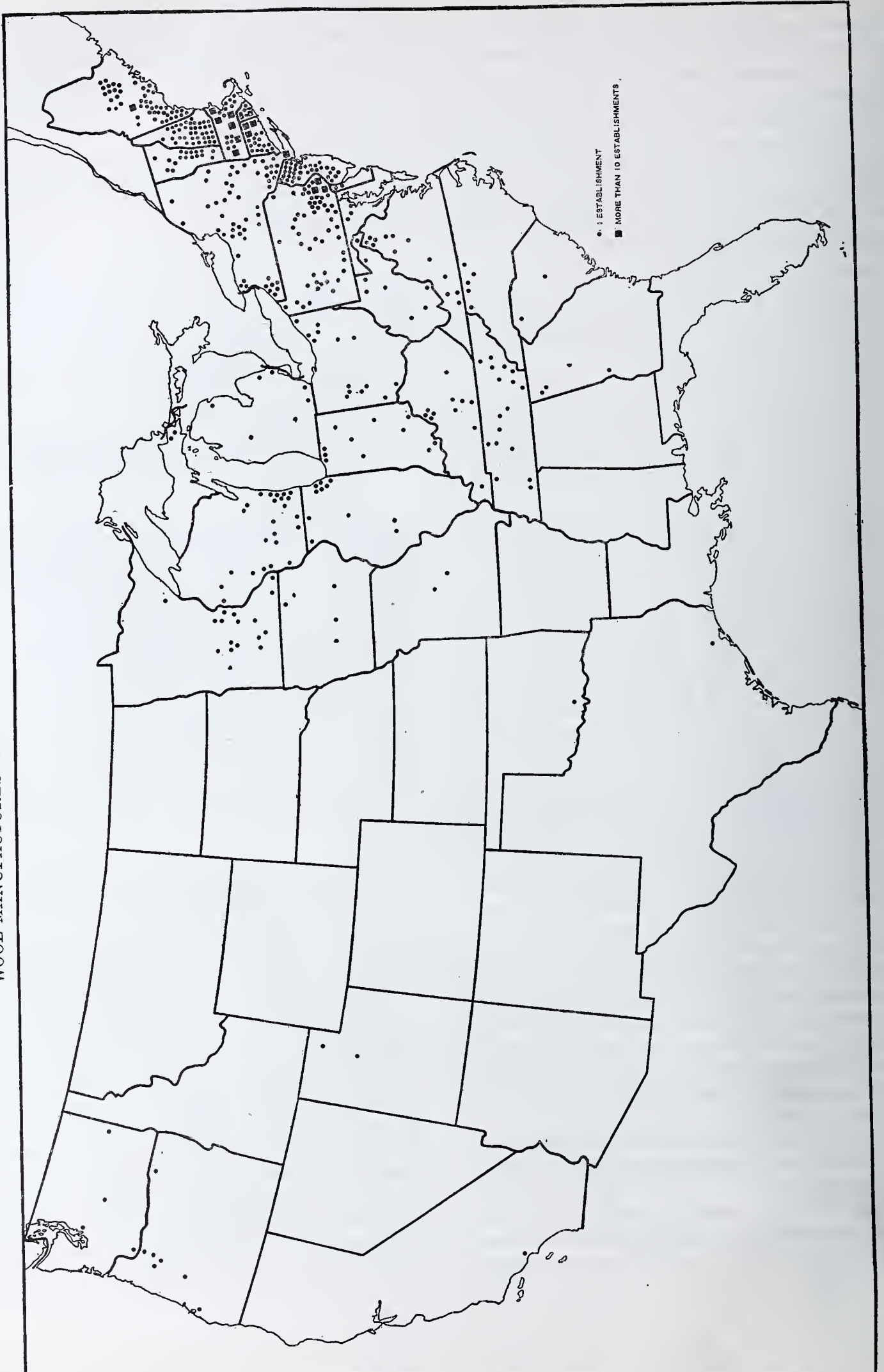


Table 4

Table 4 INDUSTRY AND CLASS.	Census year.	PERSONS ENGAGED IN WOOL MANUFACTURES.								
		Aggregate.	Proprietors and officials .				Clerks and other subor- dinate salaried em- ployees.	Wage earners (average number).		
			Total.	Proprie- tors and firm mem- bers.	Salaried officers of cor- pora- tions.	Super- intend- ents and man- agers.		Total.	16 years of age and over.	Under 16 years of age.
Wool manufactures, total.....	1914 1909	203,716 209,882	3,168 3,640	578 866	940 897	1,650 1,877	5,263 4,213	195,285 202,029	188,408 191,102	6,877 10,927
Male.....	1914 1909	117,643 120,032	3,119 3,583	551 835	927 886	1,641 1,862	4,013 3,271	110,511 113,178	107,469 108,123	3,042 5,055
Female.....	1914 1909	86,073 89,850	49 57	27 31	13 11	9 15	1,250 942	84,774 88,851	80,939 82,979	3,835 5,872
Woolen goods, total.....	1914 1909	51,631 54,771	1,338 1,542	316 480	397 406	625 656	1,128 1,049	49,165 52,180	48,328 50,472	837 1,708
Male.....	1914 1909	35,226 35,815	1,313 1,514	298 457	393 402	622 655	796 802	33,117 33,499	32,659 32,547	458 952
Female.....	1914 1909	16,405 18,956	25 28	18 23	4 4	3 1	332 247	16,048 18,681	15,669 17,925	379 756
Worsted goods, total.....	1914 1909	113,059 114,422	1,149 1,431	141 197	330 309	678 925	2,383 1,979	109,527 111,012	104,162 103,203	5,365 7,809
Male.....	1914 1909	57,894 58,858	1,136 1,411	135 191	327 304	674 916	1,793 1,490	54,965 55,957	52,752 52,654	2,213 3,303
Female.....	1914 1909	55,165 55,564	13 20	6 6	3 5	4 9	590 489	54,562 55,055	51,410 50,549	3,152 4,506
Carpets and rugs, total.....	1914 1909	33,101 34,706	444 448	72 134	130 115	242 199	1,348 951	31,309 33,307	30,661 31,956	648 1,351
Male.....	1914 1909	19,976 20,725	439 444	71 134	128 113	240 197	1,124 801	18,413 19,480	18,063 18,720	350 760
Female.....	1914 1909	13,125 13,981	5 4	1	2 2	2 2	224 150	12,896 13,827	12,598 13,236	298 591
Felt goods, total.....	1914 1909	4,553 3,856	154 134	11 19	68 55	75 60	364 178	4,035 3,544	4,023 3,517	12 27
Male.....	1914 1909	3,564 3,076	151 132	11 18	65 55	75 59	271 137	3,142 2,807	3,134 2,789	8 18
Female.....	1914 1909	989 780	3 2	 1	3	 1	93 41	893 737	889 728	4 9
Wool-felt hats, total.....	1914 1909	1,372 2,127	83 85	38 36	15 12	30 37	40 56	1,249 1,986	1,234 1,954	15 32
Male.....	1914 1909	983 1,558	80 82	36 35	14 12	30 35	29 41	874 1,435	861 1,413	13 22
Female.....	1914 1909	389 569	3 3	2 1	1	 2	11 15	375 551	373 541	2 10

The aggregate number of persons engaged in wool manufactures was smaller in 1914 than in 1909, and of the different classes of employees, salaried officers of corporations and clerks and other subordinate salaried employees were the only ones which increased during this period. The manufacture of felt goods was the only industry showing an increase in the aggregate of all persons engaged and in the number of wage earners.

In 1914 women 16 years of age and over formed 41.4 per cent of the total number of wage earners employed in all branches of wool manufactures, as compared with 41.7 per cent in 1909. Women constituted almost half of the adult wage earners in the worsted-goods industry and represented more than two-fifths of this total in the manufacture of carpets and rugs, but in the manufacture of woolen goods and wool-felt hats they constituted less than one-third and in the felt-goods industry, less than one-fourth of the wage earners over 16 years of age.

Wage earners under 16 years of age represented only 3.5 per cent of the total wage earners in 1914, a

smaller proportion than in 1909. More than one-half the children employed at each census were girls. By far the largest number of wage earners under 16 years of age were employed in the manufacture of worsted goods, and children also constituted a larger proportion of the total wage earners in this industry than in any other industry in the group, representing 4.9 per cent of the total in 1914 and 7 per cent in 1909.

The average number of wage earners in each state, for 1914, 1909, and 1904, is given in Table 53. The distribution of the average number by sex and age is not shown for the individual states, but Table 54 gives, for 1914, a distribution of the number employed on December 15, or the nearest representative day. Female wage earners were reported in the industries from every state; the largest number, 25,044, was reported from Massachusetts, and the next largest number, 15,990, from Pennsylvania.

Table 5 gives, for the several classes of persons engaged in wool manufactures, the percentages of increase or decrease from 1909 to 1914 and the per cent distribution at the two censuses.

Table 5.

Table 5.	PERSONS ENGAGED IN WOOL MANUFACTURES.									
	CLASS.	Per cent of increase, ¹ 1909-1914.			Per cent distribution.					
		Total.	Male.	Female.	Total.		Male.		Female.	
					1914	1909	1914	1909	1914	1909
All classes.....	-2.9	-2.0	-4.2	100.0	100.0	100.0	100.0	100.0	100.0	
Proprietors and officials.....	-13.0	-13.0	-14.0	1.6	1.7	2.7	3.0	0.1	0.1	
Proprietors and firm members.....	-33.3	-34.0	-12.9	0.3	0.4	0.5	0.7	(2)	(2)	
Salaried officers of corporations.....	4.8	4.6	18.2	0.5	0.4	0.8	0.7	(2)	(2)	
Superintendents and managers.....	-12.1	-11.9	-40.0	0.8	0.9	1.4	1.6	(2)	(2)	
Clerks and other subordinate salaried employees.....	24.9	22.7	32.7	2.6	2.0	3.4	2.7	1.5	1.0	
Wage earners (average number).....	-3.3	-2.4	-4.6	95.9	96.3	93.9	94.3	98.5	98.9	
16 years of age and over.....	-1.4	-0.6	-2.5	92.5	91.1	91.3	90.1	94.0	92.3	
Under 16 years of age.....	-37.1	-39.8	-34.7	3.4	5.2	2.6	4.2	4.5	6.5	

¹ A minus sign (-) denotes decrease.² Less than one-tenth of 1 per cent.

The average number of wage earners employed in wool manufactures and their per cent distribution by sex and age are given in Table 6 for 1914, 1909, and 1904. The table also shows, for each of the industries

comprising the wool-manufacturing group and for 14 leading states, the same distribution of wage earners for 1914 and 1909.

Table 6

INDUSTRY AND STATE.	Census year.	WAGE EARNERS.				INDUSTRY AND STATE.	Census year.	WAGE EARNERS.			
		Average number. ¹	Per cent of total.					Average number. ¹	Per cent of total.		
			16 years of age and over.		Under 16 years of age.				16 years of age and over.		Under 16 years of age.
			Male.	Female.					Male.	Female.	
United States.....	1914	195,285	55.0	41.4	3.5	Massachusetts.....	⁴ 1914	59,574	58.8	38.3	2.8
	1909	202,129	53.5	41.1	5.4		⁵ 1909	59,149	55.6	38.5	5.9
	1904	179,976	52.7	40.1	7.2	New Hampshire.....	1914	9,532	61.7	37.7	0.6
Woolen goods.....	1914	49,165	66.4	31.9	1.7		1909	9,486	56.3	42.2	1.6
	1909	52,180	62.4	34.4	3.3	New Jersey.....	³ 1914	15,336	43.8	54.5	1.7
Worsted goods.....	1914	109,527	48.2	46.9	4.9		1909	13,536	46.2	49.4	4.4
	1909	111,012	47.4	45.5	7.0	New York.....	1914	21,092	54.4	44.5	1.0
Carpets and rugs.....	1914	31,309	57.7	40.2	2.1		1909	21,358	55.3	43.5	1.2
	1909	33,307	56.2	39.7	4.1	Oregon.....	1914	648	61.5	37.6	0.9
Felt goods.....	1914	4,035	77.7	22.0	0.3		1909	469	59.2	37.3	3.5
	1909	3,544	78.7	20.5	0.8	Pennsylvania.....	1914	34,030	50.2	42.7	7.1
Wool-felt hats.....	1914	1,249	68.9	29.9	1.2		1909	38,919	49.0	42.8	8.2
	1909	1,986	71.1	27.2	1.6	Rhode Island.....	³ 1914	22,745	50.0	43.4	6.6
Connecticut ²	1914	7,350	70.8	26.3	2.9		1909	24,924	52.1	41.7	6.2
	1909	7,789	66.4	28.9	4.7	Tennessee.....	1914	1,069	53.1	41.2	5.7
Georgia.....	³ 1914	524	52.9	40.6	6.5		1909	1,654	44.5	44.7	10.8
	1909	660	51.6	38.2	10.1	Vermont.....	1914	2,226	72.8	27.1	.....
Indiana ³	³ 1914	719	51.4	46.6	2.1		1909	2,294	60.9	37.6	1.4
	³ 1909	776	42.5	53.2	4.3						
Kentucky.....	1914	675	38.5	60.9	0.6						
	1909	818	35.3	57.4	7.3						
Maine ⁴	1914	7,998	64.3	33.7	2.0						
	1909	8,553	62.4	35.5	2.1						

¹ For method of estimating the distribution, by sex and age periods, of the average number of wage earners, see "Explanation of terms."² Excludes statistics for three establishments, to avoid disclosure of individual operations.³ Excludes statistics for one establishment, to avoid disclosure of individual operations.⁴ Excludes statistics for two establishments, to avoid disclosure of individual operations.⁵ Excludes statistics for five establishments, to make figures comparable.

Wage earners, classified according to nature of employment.—Table 7 shows for the United States and for selected states, for 1914 and 1909, the distribution by sex and age of spinners, weavers, and all other wage earners engaged in wool manufactures. The numbers shown are those reported for December 15, or the nearest representative day.

The figures for spinners and weavers in this table are somewhat inaccurate. Some concerns reported all their employees in one or the other, or in both of these classes. Some mills reported winders, warpers, etc., included with spinners, while other mills reported

only those employees operating producing spindles. In some cases the average number of spinners and weavers was reported, although the schedule called for the number employed on December 15, or the nearest representative day. The "all other" group is simply the difference between the total and the sum of spinners and weavers. The statistics were tabulated as the manufacturers reported them, practically without attempting to edit or to correct them through correspondence, since it was thought that the inconvenience to manufacturers would not be justified by the slight increase in the accuracy of the figures. In a general

way, these figures are sufficiently accurate for most statistical purposes.

The proportion of spinners and weavers is largely indicative of the character of the work which predominates in the mills of the respective states. Of the states represented in the table, Maine shows the

highest percentage of weavers (31 per cent). New Jersey, which is next highest in this class of operatives (25.3 per cent), also reported a larger proportion of spinners (18.6 per cent) than any of the other leading states.

Table 7

CLASS AND STATE.	WAGE EARNERS IN WOOL MANUFACTURES.													
	Number December 15th or nearest representative day.								Per cent of total.					
	1914.				1909				1914			1909		
	Total.	Spinners.	Weavers.	All other.	Total.	Spinners.	Weavers.	All other.	Spinners.	Weavers.	All other.	Spinners.	Weavers.	All other.
United States.....	200,450	22,160	46,173	132,117	210,045	23,967	49,745	136,333	11.1	23.0	65.9	11.4	23.7	64.9
16 years of age and over.....	193,424	20,455	45,993	126,976	198,689	20,886	49,482	128,321	10.6	23.8	65.6	10.5	24.9	64.6
Male.....	110,545	9,525	25,367	75,653	112,421	10,073	26,953	75,395	8.6	22.9	68.4	9.0	24.0	67.1
Female.....	82,879	10,930	20,626	51,323	86,268	10,813	22,529	52,926	13.2	24.9	61.9	12.5	26.1	61.4
Under 16 years of age.....	7,026	1,705	180	5,141	11,356	3,081	263	8,012	24.3	2.6	73.2	27.1	2.3	70.6
Male.....	3,110	661	80	2,369	5,255	1,177	124	3,954	21.3	2.6	76.2	22.4	2.4	75.2
Female.....	3,916	1,044	100	2,772	6,101	1,904	139	4,058	26.7	2.6	70.8	31.2	2.3	66.5
Massachusetts.....	62,562	4,872	12,401	45,289	62,269	5,662	14,144	42,463	7.8	19.8	72.4	9.1	22.7	68.2
16 years of age and over..	60,782	4,693	12,354	43,735	58,642	5,042	14,064	39,536	7.7	20.3	72.0	8.6	23.9	67.5
Male.....	36,810	2,197	6,739	27,874	34,708	2,336	7,413	24,959	6.0	18.3	75.7	6.7	21.4	71.9
Female.....	23,972	2,496	5,615	15,861	23,934	2,706	6,651	14,577	10.4	23.4	66.2	11.3	27.8	60.9
Under 16 years of age....	1,780	179	47	1,554	3,627	620	80	2,927	10.1	2.6	87.3	17.1	2.2	80.7
Male.....	708	69	6	633	1,633	205	30	1,398	9.7	0.8	89.4	12.6	1.8	85.6
Female.....	1,072	110	41	921	1,994	415	50	1,529	10.3	3.8	85.9	20.8	2.5	76.7
Pennsylvania.....	34,226	4,177	8,524	21,525	40,680	7,504	10,972	22,204	12.2	24.9	62.9	18.4	27.0	54.6
16 years of age and over..	31,793	3,488	8,477	19,828	37,362	6,278	10,914	20,170	11.0	26.7	62.4	16.8	29.2	54.0
Male.....	17,169	1,683	5,719	9,767	19,955	2,777	6,954	10,224	9.8	33.3	56.9	13.9	34.8	51.3
Female.....	14,624	1,805	2,758	10,061	17,407	3,501	3,960	9,946	12.3	18.9	68.8	20.1	22.7	57.2
Under 16 years of age....	2,433	689	47	1,697	3,318	1,226	58	2,034	28.3	1.9	69.7	36.9	1.8	61.3
Male.....	1,067	195	17	855	1,529	467	30	1,032	18.3	1.6	80.1	30.5	2.0	67.5
Female.....	1,366	494	30	842	1,789	759	28	1,002	36.2	2.2	61.6	42.4	1.6	56.0
Rhode Island.....	23,024	2,939	4,926	15,159	24,739	2,970	4,983	16,786	12.8	21.4	65.8	12.0	20.1	67.9
16 years of age and over..	21,493	2,406	4,888	14,199	23,196	2,549	4,940	15,707	11.2	22.7	66.1	11.0	21.3	67.7
Male.....	11,508	1,072	3,304	7,132	12,879	1,241	3,366	8,272	9.3	28.7	62.0	9.7	26.1	64.2
Female.....	9,985	1,334	1,584	7,067	10,317	1,308	1,574	7,435	13.4	15.9	70.7	12.6	15.3	72.1
Under 16 years of age....	1,531	533	38	960	1,543	421	43	1,079	34.8	2.5	62.7	27.3	2.8	69.9
Male.....	664	228	33	403	726	191	32	503	34.3	5.0	60.7	26.3	4.4	69.3
Female.....	867	305	5	557	817	230	11	576	35.2	0.6	64.2	28.1	1.4	70.5
New York.....	21,244	2,312	4,268	14,664	21,788	1,762	4,819	15,207	10.9	20.1	69.0	8.1	22.1	69.8
16 years of age and over..	21,028	2,265	4,264	14,499	21,515	1,685	4,804	15,026	10.8	20.3	68.9	7.8	22.3	69.9
Male.....	11,567	878	2,162	8,527	12,041	670	2,219	9,152	7.6	18.7	73.7	5.6	18.4	76.0
Female.....	9,461	1,387	2,102	5,972	9,474	1,015	2,585	5,874	14.7	22.2	63.1	10.7	27.3	62.0
Under 16 years of age....	216	47	4	165	273	77	15	181	21.8	1.9	76.4	28.2	5.5	66.3
Male.....	133	23	2	108	136	18	6	112	17.3	1.5	81.2	13.2	4.4	82.4
Female.....	83	24	2	57	137	59	9	69	28.9	2.4	68.7	43.1	6.6	50.3
New Jersey.....	15,334	2,850	3,880	8,604	14,724	1,608	3,208	9,908	18.6	25.3	56.1	10.9	21.8	67.3
16 years of age and over..	15,078	2,801	3,864	8,413	14,085	1,419	3,191	9,475	18.6	25.6	55.8	10.1	22.6	67.3
Male.....	6,723	826	1,359	4,538	6,807	578	1,048	5,181	12.3	20.2	67.5	8.5	15.4	76.1
Female.....	8,355	1,975	2,505	3,875	7,278	841	2,143	4,294	23.6	30.0	46.4	11.6	29.4	59.0
Under 16 years of age....	256	49	16	191	639	189	17	433	19.1	6.3	74.6	29.6	2.6	67.8
Male.....	108	25	13	70	341	92	14	235	23.1	12.0	64.8	26.9	4.1	69.0
Female.....	148	24	3	121	298	97	3	198	16.2	2.0	81.8	32.6	1.0	66.4
New Hampshire.....	9,404	660	2,026	6,718	9,752	623	1,276	7,853	7.0	21.5	71.4	6.4	13.1	80.5
16 years of age and over..	9,346	660	2,026	6,660	9,600	585	1,276	7,739	7.1	21.7	71.2	6.1	13.3	80.6
Male.....	5,801	407	883	4,511	5,488	375	637	4,476	7.0	15.2	77.8	6.8	11.6	81.6
Female.....	3,545	253	1,143	2,149	4,112	210	639	3,263	7.1	32.2	60.6	5.1	15.5	79.4
Under 16 years of age....	58	.....	.....	58	152	38	.....	114	.....	.....	100.0	25.0	.....	75.0
Male.....	34	.....	.....	34	73	5	.....	68	.....	.....	100.0	6.8	.....	93.2
Female.....	24	.....	.....	24	79	33	.....	46	.....	.....	100.0	41.8	.....	58.2
Maine.....	8,651	940	2,680	5,031	9,397	1,010	2,778	5,609	10.9	31.0	58.1	10.7	29.6	59.7
16 years of age and over..	8,479	876	2,680	4,923	9,200	934	2,776	5,490	10.3	31.6	58.1	10.2	30.2	59.6
Male.....	5,565	614	1,344	3,607	5,868	661	1,522	3,685	11.0	24.2	64.8	11.3	25.9	62.8
Female.....	2,914	262	1,336	1,316	3,332	273	1,254	1,805	9.0	45.8	45.2	8.2	37.6	54.2
Under 16 years of age....	172	64	.....	108	197	76	2	119	37.2	.....	62.8	38.6	1.0	60.4
Male.....	71	24	.....	47	86	26	1	59	33.8	.....	66.2	30.2	1.2	68.6
Female.....	101	40	.....	61	111	50	1	60	39.6	.....	60.4	45.0	0.9	54.1

Wage earners employed, by months.—Table 8 gives the total number of wage earners employed in wool manufactures on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

This table shows that as a rule there is no well-defined seasonal variation in the number of wage earners

employed in wool manufactures. The greatest variation in the numbers employed was 9.5 per cent in 1914, 7.6 per cent in 1909, and 4.4 per cent in 1904. The spring months manifested the greatest activity in 1914, April being the month of maximum employment and December the minimum. November was the month of maximum employment in both 1909 and 1904, the least number in 1909 being reported for January, and in 1904 for July.

Table 8

MONTH.	WAGE EARNERS IN WOOL MANUFACTURES.					
	Number. ¹			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	193,400	191,630	179,811	95.0	92.4	97.9
February.....	196,992	194,723	180,329	96.8	93.9	98.2
March.....	202,268	198,898	182,074	99.4	95.9	99.1
April.....	203,511	199,570	180,324	100.0	96.3	98.2
May.....	203,012	200,850	179,616	99.8	96.9	97.8
June.....	200,596	205,132	176,880	98.6	98.9	96.3
July.....	191,039	204,115	175,562	93.9	98.4	95.6
August.....	188,355	203,682	176,212	92.6	98.2	95.9
September.....	193,567	205,209	179,315	95.1	99.0	97.6
October.....	196,350	204,403	182,478	96.5	99.5	99.3
November.....	190,232	207,340	183,718	93.5	100.0	100.0
December.....	184,098	206,790	183,393	90.5	99.7	99.8

¹ The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

Table 9 shows, for 1914, the number of wage earners employed in wool manufactures on the 15th of each month, or the nearest representative day, for each

state in which the average number of wage earners was 500 or more, together with the percentage which the number for each month forms of the greatest number reported for any month.

This table shows that the same degree of stability in employment, referred to in connection with Table 8, does not prevail in all of the states. The minimum number employed during the year in Vermont formed only 62.9 per cent of the maximum and in Georgia, 64.2 per cent. The greatest regularity in monthly employment in 1914 was shown in Ohio, where the smallest number of wage earners, reported in January, constituted 94.9 per cent of the largest number, reported in October.

The months of greatest and least employment in 1914 and the number reported for such months are given, by industries and states, in Table 54.

Table 9

INDUSTRY AND STATE.	[Month of maximum employment is indicated by boldface figures and that of minimum by <i>italic</i> figures.]													
	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum of maximum.
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States.....	195,285	193,400	196,992	202,268	203,511	203,012	200,596	191,039	188,355	193,567	196,350	190,232	<i>184,098</i>	90.5
Woolen goods.....	49,165	48,401	49,297	51,144	51,499	51,402	50,763	48,228	<i>46,585</i>	48,512	48,297	47,420	48,432	90.5
Worsted goods.....	109,527	106,861	109,448	112,715	113,676	113,263	112,862	108,235	107,016	109,330	111,730	108,567	<i>100,621</i>	88.5
Carpets and rugs.....	31,309	33,021	33,166	33,175	32,941	32,902	31,472	29,262	29,362	30,292	30,843	<i>29,240</i>	30,032	88.1
Felt goods.....	4,035	4,282	4,097	4,176	4,142	4,045	4,008	<i>3,872</i>	3,874	3,953	4,008	3,952	4,011	90.4
Wool-felt hats.....	1,249	<i>835</i>	984	1,053	1,253	1,400	1,491	1,442	1,518	1,480	1,472	1,053	1,002	55.0
Connecticut ¹	7,350	<i>6,803</i>	6,981	7,474	7,567	7,781	7,725	7,580	7,175	7,304	7,464	7,039	7,307	87.4
Georgia ²	524	612	609	597	563	545	546	525	516	498	464	420	<i>393</i>	64.2
Indiana.....	719	810	818	735	686	692	688	703	<i>645</i>	704	723	698	726	78.9
Kentucky.....	675	<i>640</i>	671	670	694	678	676	654	697	696	685	663	676	91.8
Maine ³	7,998	7,756	8,097	8,243	8,264	8,106	7,992	7,466	<i>7,338</i>	8,002	8,218	8,062	8,432	87.0
Massachusetts ³	59,574	<i>58,259</i>	59,469	62,304	63,602	63,163	63,243	58,864	57,984	58,405	59,312	57,670	<i>52,613</i>	82.7
New Hampshire.....	9,532	9,752	9,894	9,893	9,858	9,800	9,551	9,166	9,413	<i>9,100</i>	9,472	9,365	9,120	92.0
New Jersey ²	15,336	<i>14,553</i>	15,058	15,512	15,371	15,573	15,558	15,399	15,146	15,516	15,711	15,533	15,102	92.6
New York.....	21,092	21,833	22,154	22,047	22,176	22,104	21,591	19,465	<i>18,984</i>	21,115	21,466	20,356	19,813	85.6
Ohio ³	2,959	<i>2,889</i>	2,948	2,922	2,956	2,976	2,992	2,970	2,941	3,000	3,043	2,956	2,915	94.9
Oregon.....	648	705	691	694	712	707	651	641	572	<i>561</i>	628	616	598	78.8
Pennsylvania.....	34,030	34,392	35,167	35,863	35,366	35,290	34,004	33,167	33,177	33,399	33,799	<i>32,084</i>	32,652	89.5
Rhode Island ²	22,745	22,618	22,673	22,807	23,226	23,154	23,163	22,623	22,134	22,947	23,466	22,898	<i>21,231</i>	90.5
Tennessee.....	1,069	1,190	1,180	1,172	1,118	1,121	1,139	1,019	1,016	1,016	<i>946</i>	953	958	79.5
Vermont.....	2,226	1,887	<i>1,843</i>	2,389	2,400	2,356	2,121	1,956	1,874	2,469	2,123	2,365	2,929	62.9
Wisconsin ³	795	735	782	863	840	863	854	817	791	792	791	745	<i>667</i>	77.3

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.

² Excludes statistics for one establishment, to avoid disclosure of individual operations.

³ Excludes statistics for two establishments, to avoid disclosure of individual operations.

Prevailing hours of labor.—Table 10 presents, for 1914 and 1909, for each branch of wool manufactures and for each of the important states for the group as a whole, a classification of the average number of wage earners according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

This table indicates a tendency toward a decrease in the length of the working-day in wool-manufacturing establishments. Almost three-fifths (58 per

cent) of the wage earners employed in wool manufactures in 1914 were in establishments where the prevailing hours of labor were 54 per week, and the greater proportion of the remainder (33.1 per cent) were in establishments where the prevailing hours were between 54 and 60 per week. In 1909, only 4 per cent were employed in establishments where the hours of labor were 54 per week, and 66.1 per cent were in factories where the most common working time was between 54 and 60 hours per week, and 28.4 per cent were in establishments where the hours of labor were 60 per week.

In Massachusetts, New York, Pennsylvania, and Rhode Island the largest number of wage earners in 1914 were employed in establishments where the prevailing hours were 54 per week. In Georgia, Indiana,

and Oregon the majority were employed in establishments where the prevailing hours were 60 per week; in the remaining states shown in the table the prevailing hours were between 54 and 60 per week.

Table 10		AVERAGE NUMBER OF WAGE EARNERS IN WOOL MANUFACTURES.								AVERAGE NUMBER OF WAGE EARNERS IN WOOL MANUFACTURES.									
INDUSTRY AND STATE.	Cen- sus year.	Total.	In establishments where the prevailing hours of labor per week were—						Total.	Cen- sus year.	Total.	In establishments where the prevailing hours of labor per week were—							
			48 and un- der.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.				72.	48 and un- der.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.	72.
United States.....	1914	195,285	1,108	4,675	113,333	64,599	11,511	19	40	Massachusetts.....	³ 1911	59,574	50	1,717	48,216	7,836	1,755	.....	.....
	1909	202,029	588	1,270	8,180	133,530	57,384	1,075	2		⁴ 1909	59,149	359	181	255	53,800	4,554	.....	.....
Woolen goods...	1914	49,165	1,062	634	14,010	26,378	7,033	8	40	New Hampshire...	1914	9,532	.....	.....	1,062	8,470	.....	.....	.....
	1909	52,180	391	670	300	26,249	23,493	1,075	2		1909	9,486	.....	.....	.....	8,889	597	.....	.....
Worsted goods...	1914	109,527	.....	1,589	74,295	30,550	3,093	.....	.....	New Jersey.....	² 1914	15,336	.....	.....	13	15,316	7	.....	.....
	1909	111,012	2	406	323	90,824	19,457	.....	.....		1909	13,536	36	156	8	12,592	744	.....	.....
Carpets and rugs	1914	31,309	23	2,099	23,235	5,685	267	.....	.....	New York.....	1914	21,092	370	356	16,198	1,023	3,134	11	.....
	1909	33,307	165	178	7,078	13,802	12,084	.....	.....		1909	21,358	30	773	6,463	5,312	8,780	.....	.....
Felt goods.....	1914	4,035	5	96	1,239	1,767	917	11	.....	Oregon.....	1914	648	.....	.....	25	226	397	.....	.....
	1909	3,544	.....	.....	444	1,180	1,920	.....	.....		1909	469	.....	.....	3	.....	466	.....	.....
Wool-felt hats..	1914	1,249	18	257	554	219	201	.....	.....	Pennsylvania.....	1914	34,030	620	2,227	22,029	8,801	345	8	.....
	1909	1,986	30	16	35	1,475	430	.....	.....		1909	38,919	131	.....	692	18,086	20,010	.....	.....
Connecticut ¹	1914	7,350	.....	108	307	6,123	812	.....	.....	Rhode Island.....	² 1914	22,745	.....	.....	18,147	3,993	605	.....	.....
	1909	7,789	.....	.....	87	4,741	2,961	.....	.....		1909	24,924	2	95	284	22,748	1,795	.....	.....
Georgia.....	² 1914	524	.....	.....	.....	.....	524	.....	.....	Tennessee.....	1914	1,069	.....	.....	146	703	180	.....	40
	1909	660	.....	.....	.....	15	306	339	.....		1909	1,654	1	.....	.....	67	1,029	557	.....
Indiana ²	1914	719	13	119	35	115	437	.....	.....	Vermont.....	1914	2,226	.....	.....	122	1,823	281	.....	.....
	1909	776	.....	.....	2	.....	774	.....	.....		1909	2,294	.....	39	.....	26	2,229	.....	.....
Kentucky.....	1914	675	6	3	2	586	78	.....	.....										
	1909	818	.....	9	.....	.....	738	70	1										
Maine ³	1914	7,998	.....	.....	166	7,374	458	.....	.....										
	1909	8,553	.....	.....	2	500	8,050	.....	1										

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.

² Excludes statistics for one establishment, to avoid disclosure of individual operations.

³ Excludes statistics for two establishments, to avoid disclosure of individual operations.

⁴ Excludes statistics for five establishments, to make figures comparable.

Character of ownership.—Table 11 presents, for 1914 and 1909, statistics concerning the character of ownership, or legal organization, of establishments in

the wool-manufactures group as a whole, and in the industries comprising it.

CHARACTER OF OWNER-SHIP.	WOOL MANUFACTURES.															
	Number of establish-ments.				Average number of wage earners.				Value of products.				Value added by manufacture.			
	1914	1909	Per cent dis-tribution.		1914	1909	Per cent dis-tribution.		1914	1909	Per cent dis-tribution.		1914	1909	Per cent dis-tribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
Wool manufactures...	979	1,124	100.0	100.0	195,285	202,029	100.0	100.0	\$464,249,813	\$507,166,710	100.0	100.0	\$166,186,315	\$184,725,667	100.0	100.0
Individuals.....	176	257	18.0	22.9	9,489	11,292	4.9	5.6	25,951,835	29,474,655	5.6	5.8	7,978,702	9,810,173	4.8	5.3
Corporations.....	645	635	65.9	56.5	167,863	162,880	85.9	80.6	393,585,924	410,182,889	84.8	80.9	142,435,321	150,701,305	85.7	81.6
All others.....	158	232	16.1	20.6	17,933	27,857	9.2	13.8	44,712,054	67,509,166	9.6	13.3	15,772,292	24,214,189	9.5	13.1
Woolen goods.....	501	587	100.0	100.0	49,165	52,180	100.0	100.0	103,815,905	107,118,858	100.0	100.0	40,119,863	41,467,224	100.0	100.0
Individuals.....	104	152	20.8	25.9	3,838	5,166	7.8	9.9	9,519,469	10,115,065	9.2	9.4	3,359,207	3,873,585	8.4	9.3
Corporations.....	310	307	61.9	52.3	38,743	40,163	78.8	77.0	80,312,807	81,198,858	77.4	75.8	31,519,970	30,948,446	78.6	74.6
All others.....	87	128	17.4	21.8	6,584	6,851	13.4	13.1	13,983,629	15,804,935	13.5	14.8	5,240,686	6,645,193	13.1	16.0
Worsted goods.....	298	324	100.0	100.0	109,527	111,012	100.0	100.0	275,668,474	312,624,663	100.0	100.0	92,867,850	104,837,727	100.0	100.0
Individuals.....	41	42	13.8	13.0	4,893	3,432	4.5	3.1	14,158,134	11,984,828	5.1	3.8	3,709,268	3,201,352	4.0	3.1
Corporations.....	220	226	73.8	69.8	97,981	96,292	89.4	86.7	242,061,557	268,683,870	87.8	85.9	82,906,324	92,193,745	89.3	87.9
All others.....	37	56	12.4	17.3	6,653	11,288	6.1	10.2	19,448,783	31,955,965	7.1	10.2	6,252,258	9,442,630	6.7	9.0
Carpets and rugs.....	97	139	100.0	100.0	31,309	33,307	100.0	100.0	69,128,185	71,188,152	100.0	100.0	26,847,962	31,625,148	100.0	100.0
Individuals.....	15	45	15.5	32.4	660	2,546	2.1	7.6	2,096,442	7,073,752	3.0	9.9	814,230	2,605,943	3.0	8.2
Corporations.....	60	57	61.9	41.0	26,567	21,882	84.9	65.7	57,126,692	46,899,043	82.6	65.9	22,355,555	21,973,245	83.3	69.5
All others.....	22	37	22.7	26.6	4,082	8,879	13.0	26.7	9,905,051	17,215,357	14.3	24.2	3,678,177	7,045,960	13.7	22.3
Felt goods and wool-felt hats¹.....	83	74	100.0	100.0	5,284	5,530	100.0	100.0	15,637,249	16,235,037	100.0	100.0	6,350,640	6,795,568	100.0	100.0
Individuals.....	16	18	19.3	24.3	98	148	1.9	2.7	177,790	301,010	1.1	1.9	95,997	129,293	1.5	1.9
Corporations.....	55	45	66.3	60.8	4,572	4,543	86.5	82.1	14,084,868	13,401,118	90.1	82.5	5,653,472	5,585,869	89.0	82.2
All others.....	12	11	14.4	14.9	614	839	11.6	15.2	1,874,591	2,532,909	8.8	15.6	601,171	1,080,406	9.5	15.9

¹ Felt goods and wool-felt hats combined, to avoid disclosure of individual operations.

This table shows that there has been a pronounced increase, relative as well as absolute, from 1909 to 1914, in the number and importance of establishments under corporate ownership. During the same period establishments under individual and other ownerships have decreased in number and importance. "All other" ownership is composed chiefly of firms, but also includes cooperative organizations, estates, etc.

The number of concerns under corporate control amounted to more than 50 per cent of the total estab-

lishments in four of the five industries, and reported much more than half the total number of wage earners and value of products in every one of the five industries. This form of ownership was also the most important in 1914 in every state.

Size of establishments.—The tendency of the industries comprising wool manufactures to become concentrated in large establishments is indicated by the statistics given in Table 12.

Table 12

INDUSTRY AND VALUE OF PRODUCT.	Number of establish- ments.				Average number of wage earners.				Value of products.				Value added by manufacture.			
	1914	1909	Per cent dis- tribution.		1914	1909	Per cent dis- tribution.		1914	1909	Per cent dis- tribution.		1914	1909	Per cent dis- tribution.	
			1914	1909			1914	1909			1914	1909			1914	1909
Wool manufactures....	979	1,124	100.0	100.0	195,285	202,029	100.0	100.0	\$464,249,813	\$507,166,710	100.0	100.0	\$166,186,315	\$184,725,667	100.0	100.0
Less than \$5,000.....	73	123	7.5	10.9	117	141	0.1	0.1	160,049	252,011	(1)	(1)	83,440	130,758	0.1	0.1
\$5,000 to \$20,000.....	72	87	7.4	7.7	543	747	0.3	0.4	741,465	972,527	0.2	0.2	424,595	504,569	0.3	0.3
\$20,000 to \$100,000.....	193	246	19.7	21.9	6,244	8,156	3.2	4.0	11,495,333	13,300,944	2.5	2.6	4,561,615	5,729,241	2.7	3.1
\$100,000 to \$1,000,000.....	² 542	566	55.4	50.4	79,285	79,309	40.6	39.3	189,949,528	193,263,576	40.9	38.1	67,952,577	67,837,896	40.9	36.7
\$1,000,000 and over.....	99	102	10.1	9.1	109,061	113,676	55.8	56.3	261,903,438	299,377,652	56.4	59.0	93,164,088	110,523,203	56.1	59.8
Woolen goods.....	501	587	100.0	100.0	49,165	52,180	100.0	100.0	103,815,905	107,118,858	100.0	100.0	40,119,863	41,467,224	100.0	100.0
Less than \$5,000.....	57	98	11.4	16.7	96	108	0.2	0.2	122,958	186,768	0.1	0.2	59,112	93,478	0.1	0.2
\$5,000 to \$20,000.....	40	59	8.0	10.1	302	526	0.6	1.0	409,053	653,981	0.4	0.6	208,619	324,553	0.5	0.8
\$20,000 to \$100,000.....	100	138	20.0	23.5	3,288	4,911	6.7	9.4	5,884,002	7,639,305	5.7	7.1	2,103,390	3,129,225	5.2	7.5
\$100,000 to \$1,000,000.....	298	283	59.5	48.2	40,585	38,193	82.5	73.2	85,918,282	78,683,305	82.8	73.5	32,962,256	30,224,851	82.2	72.9
\$1,000,000 and over.....	6	9	1.2	1.5	4,894	8,442	10.0	16.2	11,481,610	19,955,499	11.1	18.6	4,786,486	7,695,117	11.9	18.6
Worsted goods.....	298	324	100.0	100.0	109,527	111,012	100.0	100.0	275,668,474	312,624,663	100.0	100.0	92,867,850	104,837,727	100.0	100.0
Less than \$5,000.....	5	4	1.7	1.2	10	8	(1)	(1)	10,732	12,138	(1)	(1)	6,864	7,832	(1)	(1)
\$5,000 to \$20,000.....	16	10	5.4	3.1	147	99	0.1	0.1	167,272	117,484	0.1	(1)	116,754	70,353	0.1	0.1
\$20,000 to \$100,000.....	42	50	14.1	15.4	1,646	1,862	1.5	1.7	2,333,800	2,677,545	0.9	0.9	1,194,328	1,248,348	1.3	1.2
\$100,000 to \$1,000,000.....	157	183	52.7	56.5	26,847	27,921	24.5	25.2	71,602,940	81,429,010	26.0	26.0	22,462,591	23,801,149	24.2	22.7
\$1,000,000 and over.....	78	77	26.2	23.8	80,877	81,122	73.8	73.1	201,503,730	228,388,486	73.1	73.1	69,087,313	79,710,045	74.4	76.0
Carpets and rugs.....	97	139	100.0	100.0	31,309	33,307	100.0	100.0	69,128,135	71,188,152	100.0	100.0	26,847,962	31,625,148	100.0	100.0
Less than \$5,000.....	8	12	8.2	8.6	71	83	0.2	0.2	104,006	134,346	0.2	0.2	56,953	78,683	0.2	0.2
\$5,000 to \$20,000.....	25	43	25.8	30.9	622	1,027	2.0	3.1	1,662,234	2,217,254	2.4	3.1	629,727	1,020,820	2.3	3.2
\$20,000 to \$100,000.....	49	56	50.5	40.3	7,326	8,070	23.4	24.2	18,443,847	17,772,495	26.7	25.0	6,870,993	7,393,144	25.6	23.4
\$1,000,000 and over.....	15	16	15.5	11.5	23,290	24,112	74.4	72.4	48,918,098	51,033,667	70.8	71.7	19,290,289	23,118,041	71.8	73.1
Felt goods and wool- felt hats ³	83	74	100.0	100.0	5,284	5,530	100.0	100.0	15,637,249	16,235,037	100.0	100.0	6,350,640	6,795,568	100.0	100.0
Less than \$5,000.....	11	9	13.3	12.1	11	10	0.2	0.2	26,359	22,715	0.2	0.1	17,464	14,988	0.2	0.2
\$5,000 to \$20,000.....	8	6	9.6	8.1	28	39	0.5	0.7	61,134	66,716	0.4	0.4	42,269	30,980	0.7	0.5
\$20,000 to \$100,000.....	26	15	31.3	20.3	718	356	13.6	6.4	1,565,297	766,840	10.0	4.7	634,170	330,848	10.0	4.9
\$100,000 and over.....	² 38	44	45.8	59.5	4,527	5,125	85.7	92.7	13,984,459	15,378,766	89.4	94.7	5,656,737	6,418,752	89.1	94.5

¹ Less than one-tenth of 1 per cent.

² Includes one establishment having products of \$1,000,000 and over, to avoid disclosure of individual operations.

³ Felt goods and wool-felt hats combined in order to avoid disclosure of individual operations.

Although establishments with products valued at \$1,000,000 and over represented only about one-tenth of the total in 1914, the average number of wage earners they employed, the value of their products, and the value added by manufacture was considerably more than half of the respective totals. In the worsted-goods industry these very large establishments constituted about a quarter of the establishments and their products amounted to nearly three-fourths of the total.

The average value of products in wool manufactures as a whole, and in each of its five branches, for 1914, 1909, 1904, and 1899, is shown in the following table:

Table 13

INDUSTRY.	AVERAGE VALUE OF PRODUCTS PER ESTABLISHMENT.			
	1914	1909	1904	1899
Wool manufactures.....	\$474,208	\$451,216	\$314,043	\$210,036
Woolen goods.....	207,217	182,485	179,541	114,425
Worsted goods.....	925,062	964,891	733,385	646,851
Carpets and rugs.....	712,662	512,145	443,068	362,348
Felt goods.....	258,354	275,642	229,451	179,491
Wool-felt hats.....	64,816	141,368	144,545	149,664

Table 14 shows the size of establishments in 1914 and 1909, as measured by the number of wage earners employed, for the United States, for each of the branches of wool manufactures, and 14 of the leading states for the group as a whole.

Table 14

Table 14 INDUSTRY AND STATE.	Cen- sus year.	ESTABLISHMENTS IN WOOL MANUFACTURES EMPLOYING—																			
		TOTAL.		No wage earn- ers.		1 to 5 wage earn- ers.		6 to 20 wage earn- ers.		21 to 50 wage earn- ers.		51 to 100 wage earn- ers.		101 to 250 wage earn- ers.		251 to 500 wage earners.		501 to 1,000 wage earn- ers.		Over 1,000 wage earners.	
		Estab- lish- ments.	Wage earn- ers (average number.)	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.		
United States.....	1914 1909	979 1,124	195,285 202,029	24 36	84 128	195 285	110 129	1,376 1,671	138 181	4,947 6,281	193 218	14,681 16,591	267 268	43,142 42,023	99 94	34,320 31,997	30 38	21,569 27,754	34 32	75,055 75,427	
Woolen goods.....	1914 1909	501 587	49,165 52,180	17 27	54 98	114 208	58 68	684 887	78 99	2,833 3,519	120 112	9,231 9,426	141 136	22,452 20,511	28 29	9,242 9,408	4 4	2,677 2,375	1 4	1,932 5,846	
Worsted goods.....	1914 1909	298 324	109,527 111,012	3	11 7	30 19	25 28	334 359	27 38	1,009 1,254	44 55	3,298 4,060	81 97	13,548 16,090	62 51	22,086 17,691	20 28	14,936 21,473	25 20	54,286 50,066	
Carpets and rugs.....	1914 1909	97 139	31,309 33,307	 6	2 10	6 21	16 28	222 357	18 27	583 923	15 26	1,163 2,025	25 16	4,143 2,416	7 12	2,399 4,144	6 6	3,956 3,906	8 8	18,837 19,515	
Felt goods.....	1914 1909	53 43	4,035 3,544	..... .....	6 3	15 10	9 2	107 38	8 11	264 374	13 11	920 773	15 16	2,136 2,349	2	593 .....	..... .....	..... .....	..... .....	..... .....	
Wool-felt hats.....	1914 1909	30 31	1,249 1,986	4 3	11 10	30 27	2 3	29 30	7 6	258 211	1 4	69 307	5 3	863 657	 2	 754	..... .....	..... .....	..... .....	..... .....	
Connecticut ¹	1914 1909	53 56	7,350 7,789	 1	..... .....	..... .....	4 2	58 14	6 11	214 404	7 10	559 864	26 25	3,649 3,560	10 6	2,870 1,655	..... .....	..... .....	1	1,292	
Georgia.....	² 1914 1909	3 7	524 660	..... .....	..... 2	 2	 1	 14	..... .....	..... .....	..... 1	 87	3 2	524 305	 1	 252	..... .....	..... .....	..... .....	..... .....	
Indiana ²	1914 1909	10 11	719 776	..... .....	1 2	2 2	3 3	32 47	2 1	75 44	 1	 99	4 4	610 584	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
Kentucky.....	1914 1909	14 14	675 818	..... .....	7 7	19 13	 1	 9	..... .....	..... .....	2 3	161 206	1 3	170 590	1	325 .....	..... .....	..... .....	..... .....	..... .....	
Maine ³	1914 1909	57 63	7,998 8,553	 1	3 12	10 25	2 2	22 34	6 2	237 66	21 20	1,705 1,683	22 21	3,307 3,285	1 3	435 967	1	938	1 2	1,344 2,493	
Massachusetts.....	³ 1914 ⁴ 1909	183 189	59,574 59,149	..... .....	1 5	4 19	10 9	110 134	28 32	1,068 1,162	36 37	2,652 2,709	60 60	9,874 9,636	26 27	9,037 9,391	9 9	6,174 7,064	13 10	30,655 29,034	
New Hampshire.....	1914 1909	40 39	9,532 9,486	1 2	..... .....	..... .....	2 2	12 22	2 5	72 207	19 10	1,391 720	12 14	1,990 1,927	3 5	906 1,610	..... .....	..... .....	1 1	5,161 5,000	
New Jersey.....	² 1914 1909	35 42	15,336 13,536	..... .....	5 5	15 10	3 6	37 70	4 8	136 310	1 1	92 84	6 8	994 1,193	10 8	4,111 2,896	2 4	1,429 3,074	4 2	8,522 5,899	
New York.....	1914 1909	65 80	21,092 21,358	3 5	5 7	10 21	8 13	96 162	6 12	172 391	13 13	999 1,035	15 13	2,621 2,292	7 9	2,394 3,008	4 4	2,712 2,814	4 4	12,088 11,635	
Oregon.....	1914 1909	7 8	648 469	 1	 1	 3	..... .....	..... 25	 2	 61	 1	 64	 3	 341	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
Pennsylvania.....	1914 1909	266 310	34,030 38,919	8 9	23 20	52 45	46 49	638 655	52 71	1,846 2,422	44 68	3,203 5,044	62 59	10,041 9,216	17 16	5,722 5,663	10 13	7,352 9,007	4 5	5,176 6,867	
Rhode Island.....	² 1914 1909	80 88	22,745 24,924	..... .....	..... 4	 8	 5	42 75	7 8	272 293	16 16	1,267 1,172	27 28	4,812 4,764	18 16	6,759 5,467	3 7	2,311 5,288	5 4	7,282 7,857	
Tennessee.....	1914 1909	17 21	1,069 1,654	 6	5 4	5 4	3 2	37 24	3 1	111 36	2 3	162 245	3 3	479 409	1 1	275 429	 1	 507	..... .....	..... .....	
Vermont.....	1914 1909	17 17	2,226 2,294	 1	..... .....	..... .....	..... .....	..... .....	3 6	68 193	7 8	597 483	3 2	354 344	2	554	1	653	 1	 1,274	

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.² Excludes statistics for one establishment, to avoid disclosure of individual operations.³ Excludes statistics for two establishments, to avoid disclosure of individual operations.⁴ Excludes statistics for five establishments, to make figures comparable.

Of the total number of establishments reported in 1914, 2.5 per cent employed no wage earners; 19.8 per cent employed from 1 to 20 wage earners each; 33.8 per cent from 21 to 100; 27.3 per cent from 101 to 250; 13.2 per cent from 251 to 1,000; and 3.5 per cent, 1,000 or more. Of the total number of wage earners, however, only 10.9 per cent were reported by establishments employing from 1 to 100, 22.1 per cent by establishments employing from 101 to 250, 28.6 per cent by establishments employing from 251 to 1,000, and 38.4 per cent by establishments employing 1,000 or more. In Massachusetts, New Hampshire, New Jersey, and New York, approximately one-half of the wage earners were in establishments employing over 1,000. Practically half of the wage earners engaged in the manufacture of worsted goods and more than half of those making carpets and rugs were employed in establishments having more than 1,000 wage earners.

The establishments for which no wage earners were reported are comparatively small plants in which the

work was done by the proprietors or firm members; in one case the salaried officials of a corporation did all the labor required. One of these establishments employed a few wage earners for a short time, but the number was so small and the time so short that in computing the average number, as described in the "Explanation of terms," no wage earners could be shown for the establishment.

Engines and power.—Table 15 shows, for 1914, 1909, and 1904, for the five industries combined, the number and total horsepower of engines and motors classified according to their character, employed in generating power, including electric motors operated by purchased current. (It should not be assumed that electric motors so operated are themselves rented, however, as they are in most cases owned by the establishments using the power.) It also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

Table 15

POWER.	WOOL MANUFACTURES.								
	Number of engines or motors.			Horsepower.					
	1914	1909	1904	Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	4,953	3,032	2,726	442,330	400,762	322,914	100.0	100.0	100.0
Owned.....	2,090	2,412	2,569	401,268	377,176	310,792	90.7	94.1	96.2
Steam engines and turbines ¹	1,307	1,507	1,560	318,206	292,044	229,678	71.9	72.9	71.1
Internal-combustion engines.....	58	61	43	2,673	2,577	1,760	0.6	0.6	0.5
Water wheels, turbines, and motors.....	725	844	966	80,389	82,555	79,354	18.2	20.6	24.6
Rented.....	2,863	620	157	41,062	23,586	12,122	9.3	5.9	3.8
Electric.....	2,863	620	157	34,206	16,492	4,223	7.7	4.1	1.3
Other.....				6,856	7,094	7,899	1.6	1.8	2.5
Electric.....	10,025	3,931	752	169,495	90,129	27,809	100.0	100.0	100.0
Rented.....	2,863	620	157	34,206	16,492	4,223	20.2	18.3	15.2
Generated by establishments reporting.....	7,162	3,311	595	135,289	73,637	23,586	79.8	81.7	84.8

¹ Figures for horsepower include for 1904 the amounts reported under the head of "other" owned power.

The total primary power used in the group of industries as a whole increased by 119,416 horsepower, or 37 per cent, from 1904 to 1914. The power generated by steam engines constituted about the same per cent of the total primary power at each of the three censuses. Water power, which shows but a slight increase for the decade, formed a smaller proportion of the total in 1914 than it did ten years before. There was a large increase in the relative importance of the power generated by electric motors operated by purchased current (rented electric power). The number and horsepower of electric motors used for distributing power by means of current generated in the same establishment also show large increases, although the proportion which this power forms of the total electric power decreased at each census. The amounts of the several kinds of power used in each of the industries and for the combined group in the leading states is shown for 1914 in Table 54. Massachusetts, Pennsylvania, Rhode Island, and New York together reported 301,519 horsepower, or 68.2 per cent of the aggregate for the group of industries. Steam power was the most important form of power in all of the states shown separately, with the exception of Maine, Maryland, Minnesota, and Oregon, where water power ranked first, and Washington where electric power predominated. Massachusetts reported the largest amount both of steam power (119,981 horsepower) and of water power (25,402 horsepower). New York reported the largest amount of rented electric power, while Pennsylvania showed the largest amount of power developed by gas engines.

Fuel.—Closely related to the subject of power employed in manufactures is that of the fuel consumed in generating this power. Table 16 shows, for 1914, the quantity of each kind of fuel used, for which data were

obtained, for the combined group of wool-manufacturing industries, by states.

Table 16

STATE.	WOOL MANUFACTURES: 1914.				
	Coal.		Coke (tons, 2,000 lbs.).	Oil, in- cluding gasoline (barrels).	Gas (1,000 cubic feet).
	Anthra- cite (tons, 2,240 lbs.).	Bitumi- nous (tons, 2,000 lbs.).			
United States.....	332,200	1,802,629	1,524	44,940	77,857
Connecticut ¹	7,038	75,677	510	452	456
Georgia ²		7,663		70	
Illinois ³		6,499			115
Indiana ²		16,031		4	
Kentucky.....		9,195			
Maine ³	2,239	89,279		54	
Massachusetts ³	29,327	677,325	322	7,233	10,711
Michigan.....	10	9,183		58	
Minnesota ²	717	3,112		87	
New Hampshire.....	2,560	85,528	92	909	
New Jersey ²	142,767	28,306		1,372	926
New York.....	31,152	220,232	20	65	5,890
Ohio ³		31,731			930
Oregon.....		520		17,668	
Pennsylvania.....	84,401	217,463	32	2,246	36,545
Rhode Island ²	9,906	225,938	118		
Tennessee.....		10,607		26	
Vermont.....	180	32,936	414		
Wisconsin ³		12,454		66	91
All other.....	21,903	42,950	16	14,630	21,193

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.

² Excludes statistics for one establishment, to avoid disclosure of individual operations.

³ Excludes statistics for two establishments, to avoid disclosure of individual operations.

Owing to the extensive use of water power in wool manufactures, less fuel is used in generating power than would otherwise be required. In 1914 bituminous coal was by far the principal class of fuel used, and 37.6 per cent of the total of this kind of fuel was consumed in Massachusetts. The largest quantity of anthracite used, nearly one-half of the total reported for the industry, is shown for New Jersey. Gas, oil, and coke were used to some extent, the largest quantity of gas being reported for Pennsylvania.

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

Materials used in wool manufactures.—Table 17 shows the quantity and cost of the principal materials used in wool manufactures for 1914, 1909, 1904, and 1899.

Table 17	PRINCIPAL MATERIALS USED IN WOOL MANUFACTURES.								PER CENT OF INCREASE, ¹ 1904-1914.	
	Quantity.				Cost.				Quantity.	Cost.
	1914	1909	1904	1899	1914	1909	1904	1899		
MATERIAL.	Pounds.	Pounds.	Pounds.	Pounds.						
Total.....					\$298,063,498	\$322,441,043	\$242,561,096	\$181,159,127	.....	22.9
Wool:										
In condition purchased.....	502,857,333	552,503,710	483,526,095	394,369,523	122,909,821	152,750,833	119,748,779	89,893,350	4.0	2.6
Domestic.....	277,588,101	320,530,329	330,963,563	257,934,562	67,486,811	88,243,931	82,073,949	61,057,383	-16.1	-17.8
Foreign.....	225,269,232	231,973,381	152,562,532	136,434,961	55,423,010	64,506,902	37,674,830	28,835,967	47.7	47.1
Equivalent in scoured condition.....	307,705,932	352,478,605	282,194,618	238,632,452					9.0	.....
Hair.....	44,131,227	38,707,738	43,485,426	34,669,805	6,660,411	4,045,809	4,423,593	3,791,072	1.5	50.6
Camel, alpaca, and vicuña.....	6,619,750	4,697,393	1,578,800	2,536,296	1,750,874	1,423,632	320,280	530,225	319.3	446.7
Mohair.....	9,374,841	3,241,342	5,620,196	3,048,146	3,026,147	1,003,792	1,917,360	1,439,288	66.8	57.8
Domestic.....	6,928,622	2,453,984	2,684,573	(²)	2,058,201	624,579	839,731	(²)	158.1	145.1
Foreign.....	2,446,219	787,358	2,935,623	(²)	967,946	379,213	1,077,629	(²)	-16.7	-10.2
Other animal hair.....	28,136,636	30,709,003	36,286,430	29,085,363	1,883,390	1,618,885	2,185,953	1,821,559	-22.5	-13.8
Cotton:										
Domestic.....	35,307,083	26,546,861	36,593,401	43,414,502	3,882,900	3,204,526	4,541,219	3,487,132	-3.5	-14.5
Foreign.....	28,676,781	23,559,623	32,850,801	(²)	2,849,094	2,729,226	4,001,338	(²)	-12.7	-28.8
Foreign.....	6,630,302	2,987,238	3,742,600	(²)	1,033,806	475,300	539,881	(²)	77.2	91.5
Rags, clippings, etc.....	62,083,016	42,044,854	81,059,536	(²)	4,954,159	2,935,344	5,748,070	2,873,886	-23.4	-13.8
Recovered wool fiber.....	30,158,915	24,877,557	35,782,056	34,496,508	4,016,382	3,387,155	4,833,949	4,195,744	-15.7	-16.9
Waste and noils of wool, mohair, camel hair, etc.....	50,350,387	35,361,846	30,441,941	21,555,797	10,616,633	9,917,963	6,969,557	5,120,886	65.4	52.3
Wool waste and noils.....	46,816,398	34,581,498	29,359,788	21,114,539	9,929,782	9,776,634	6,657,841	5,034,204	59.5	49.1
Mohair, camel, alpaca, and vicuña noils.....	3,533,989	780,348	1,082,153	441,258	686,851	141,329	311,716	86,682	226.6	120.3
Tops, purchased.....	29,177,790	21,103,510	10,843,036	5,865,566	16,707,322	14,755,409	5,379,333	3,022,974	169.1	210.6
Yarns, purchased.....	214,451,204	231,389,792	203,079,791	181,104,221	80,468,752	90,017,898	59,904,637	45,588,908	5.6	34.3
Woolen.....	23,802,234	26,649,969	38,181,488	38,903,178	6,998,141	5,594,388	9,270,883	7,705,797	-37.7	-24.5
Worsted.....	62,895,372	70,441,520	42,403,705	34,377,736	49,254,606	61,622,616	30,309,750	23,068,988	48.3	62.5
Merino.....	706,483	2,672,012	3,618,407	3,904,515	203,825	427,529	770,627	709,894	-80.5	-73.6
Cotton.....	56,988,329	65,598,854	60,429,356	55,217,994	13,775,952	15,329,692	12,896,351	9,568,864	-5.7	6.8
Silk and spun silk.....	794,693	479,376	488,326	320,343	2,658,673	1,464,834	1,862,336	823,538	62.7	42.8
Silk.....	279,902	128,122	202,578	70,073	1,155,259	675,124	947,787	334,001	38.2	21.9
Spun silk.....	514,791	351,254	285,748	250,270	1,503,414	789,710	914,549	489,537	80.2	64.4
Linen.....	7,611,078	8,807,329	8,252,529	8,415,275	1,424,622	1,620,751	1,368,145	1,178,414	-7.8	4.1
Jute, ramie, and other vegetable fiber.....	61,653,015	56,740,732	49,705,980	39,965,180	6,152,933	3,958,088	3,426,515	2,533,413	24.0	79.6
Wool hat bodies and hats in the rough.....	Dozens. 13,449	Dozens. 21,864	Dozens. 12,089	Dozens. 4,939	26,646	83,020	25,997	13,920	11.2	2.5
All other materials, including cost of fuel and rent of power.....					47,820,472	41,343,086	30,985,962	23,171,255	.....	54.3

¹A minus sign (—) denotes decrease.² Figures not available.

Wool (in condition purchased) includes scoured, washed, and unscoured wool, the proportions of each kind being unknown. Therefore, these figures can not be used as an accurate basis for a comparison of the wool used from census to census, or of the wool used in the different states during any one census year. Even if all the wool were purchased in unscoured condition, the statistics might not be strictly comparable, since the amount of shrinkage caused by scouring ranges widely in different lots of wool. In an attempt to secure figures which would be comparable for the wool used, the manufacturers have for several censuses been asked to report "the equivalent in scoured condition" of the wool which they consumed. When a manufacturer buys all of his wool in scoured condition this item is merely a repetition of the wool, "in condition purchased," which he reports. Most of the consumers of raw wool, however, purchase the greater part of their wool in the grease, and many of them do not make a record of the weight of this wool after it is scoured, though it is all bought on the estimated scoured yield. Therefore, the item "in scoured con-

dition" consists to a considerable extent of estimated figures, which are sufficiently accurate for most statistical purposes, and which for purposes of comparison are decidedly superior to the figures for wool "in condition purchased."

There was a slight increase in 1914 as compared with 1904 in the amount of scoured wool used, though a much smaller amount was reported in 1914 than in 1909.

In 1914 Massachusetts (not including the wool used in the wool hat factories, which could not be shown for this state without disclosing individual operations) reported 32.5 per cent of the scoured wool used in the group of industries; Pennsylvania reported 17.7 per cent; New York, 12.2 per cent; and Rhode Island, 10.2 per cent, as compared with 29.7 per cent, 21.5 per cent, 9.9 per cent, and 13 per cent, respectively, in 1904. All of the states listed in Table 26, except Connecticut and Maine, show an increase between 1899 and 1909 in the quantity of scoured wool used, but New Jersey was the only state which showed an increase in this respect from 1909 to 1914.

The scoured equivalent of the foreign and domestic wool used is not reported separately, so that in comparing the source of the wool used in wool manufactures, the statistics of "wool, in condition purchased," are the only figures available. Table 17 shows a large increase during the decade in the use of foreign wool, while the amount of domestic wool used declined.

Table 18 gives the quantity of domestic and foreign wool in condition purchased, and the percentage which each constitutes of the total for wool manufactures as a whole, and for all of its branches, for each census from 1879 to 1914, inclusive.

INDUSTRY AND YEAR.	WOOL USED IN WOOL MANUFACTURES.				
	Quantity, in condition purchased (pounds).			Per cent of total.	
	Total.	Domestic.	Foreign.	Domestic.	Foreign.
Wool manufactures:					
1914.....	502,857,333	277,588,101	225,269,232	55.2	44.8
1909.....	552,503,710	320,530,329	231,973,381	58.0	42.0
1904.....	483,526,095	330,963,563	152,562,532	68.4	31.6
1899.....	394,369,523	257,934,562	136,434,961	65.4	34.6
1889.....	351,158,020	239,775,712	111,382,308	68.3	31.7
1879.....	287,597,334	214,845,394	72,751,940	74.7	25.3
Woolen goods:					
1914.....	78,873,319	62,236,522	16,636,797	78.9	21.1
1909.....	87,037,951	73,514,264	13,523,687	84.5	15.5
1904.....	157,335,727	132,656,502	24,679,225	84.3	15.7
1899.....	150,200,616	127,678,662	22,521,954	85.0	15.0
1889.....	185,307,944	168,485,806	16,822,138	90.9	9.1
1879.....	197,524,955	177,042,288	20,482,667	89.6	10.4
Worsted goods:					
1914.....	355,854,756	204,397,868	151,456,888	57.4	42.6
1909.....	387,717,415	237,088,015	150,629,400	61.1	38.9
1904.....	261,368,084	187,143,988	74,224,096	71.6	28.4
1899.....	179,977,936	122,714,543	57,263,393	68.2	31.8
1889.....	97,701,474	59,832,451	37,869,023	61.2	38.8
1879.....	41,149,326	25,461,511	15,687,815	61.9	38.1
Carpets and rugs:					
1914.....	52,552,449	149,503	52,402,946	0.3	99.7
1909.....	64,135,020	231,413	63,903,607	0.4	99.6
1904.....	51,320,521	856,868	50,463,653	1.7	98.3
1899.....	51,871,334	109,811	51,761,523	0.2	99.8
1889.....	56,881,566	2,139,332	54,742,234	3.8	96.2
1879.....	36,037,570	2,029,318	34,008,252	5.6	94.4
Felt goods:					
1914.....	14,969,852	10,511,057	4,458,795	70.2	29.8
1909.....	12,409,826	8,562,413	3,847,413	69.0	31.0
1904.....	11,868,238	8,779,197	3,089,041	74.0	26.0
1899.....	9,606,263	5,357,383	4,248,880	55.8	44.2
1889.....	6,729,083	5,039,495	1,689,588	74.9	25.1
1879.....	4,913,873	4,204,806	709,067	85.6	14.4
Wool-felt hats:					
1914.....	606,957	293,151	313,806	48.3	51.7
1909.....	1,203,498	1,134,224	69,274	94.2	5.8
1904.....	1,633,525	1,527,008	106,517	93.5	6.5
1899.....	2,713,374	2,074,163	639,211	76.4	23.6
1889.....	4,537,953	4,278,628	259,325	94.3	5.7
1879.....	7,971,610	6,107,471	1,864,139	76.6	23.4

Practically all of the domestic wool is of the finer grades—clothing wool and combing wool—corresponding in the statistics of imports and exports to class 1 and class 2, respectively; in the statistics for "net supply" in Table 29 all the domestic production is included with the imported clothing and combing wool to obtain the total supply of this class of wool available. Foreign wool constituted from year to year a varying proportion of the total net supply of clothing and combing wool, but the proportions were considerably higher during the past decade than the corresponding proportions in any year prior to 1905 shown in Table 29. The domestic production responded somewhat to the more favorable conditions during the years from 1908 to 1911, the production of 1909 being, with the exception of the years 1892 and 1893, the largest in the history of wool growing in this country, but since 1909 the domestic production

of wool has steadily declined. Practically all of the wool used in the manufacture of woolen, worsted, and felt goods, and wool-felt hats is of the finer grades—clothing and combing wool.

Nearly all the raw wool used by carpet mills is of foreign origin and of comparatively low grade, domestic wool constituting less than three-tenths of 1 per cent of the total consumption of wool (in condition purchased) in 1914 in this branch of wool manufactures. The importation of carpet wool (designated "class 3" in the statistics of imports and exports) for the year ending June 30, 1914, aggregated 130,770,235 pounds (see Table 29). No exact comparison of the carpet wool imported with that used can be made, but in a general way it may be said that the difference between the imports of carpet wool and the quantity reported as material by the carpet and rug mills represents for the most part the carpet wool spun into yarn in woolen and worsted mills for use in making carpets, although a comparatively small portion is used in making low grade blankets and the coarser cloths.

The continuous increase in the amount of tops reported at each successive census is significant of the growing specialization of the mills in the worsted branch of wool manufacture. In 1914 there were 27 mills which confined their operations to spinning, using tops as material and producing only worsted yarn. These mills used approximately 15,000,000 pounds of tops, about half of the total amount purchased as such. Many other mills producing worsted yarn for their own use or for sale purchased tops for part of their material.

The manufacture of tops for sale was confined to the worsted mills, the production for 1914 amounting to 8,985,170 pounds. The purchased tops used in all branches of wool manufacture amounted to 29,177,790 pounds. Imports of tops during the year ending December 31 aggregated 6,180,632 pounds (see Table 41). This accounts, however, for only half the tops used during the year. The remainder were manufactured on commission for dealers and merchants who made no report to the Census Bureau. Six commission combing establishments assigned to the worsted-goods industry reported that they received more than \$1,000,000 for this work. Six other establishments doing commission scouring in addition to carding and combing were assigned to the wool-scouring industry; these establishments produced several million pounds of tops on commission. The commission combing mills were not required to report the amount of wool treated or the pounds of tops produced, consequently the exact figures can not be given.

In addition to scoured wool considerable quantities of recovered wool fiber, animal hair, and raw cotton are used in wool manufactures. Table 19 shows the quantity of the several classes of raw fibers and of recovered wool fiber used in 1914, 1909, 1904, and 1899, together with the proportion which each formed of the total consumption of all fibers.

Table 19 MATERIAL.	PRINCIPAL FIBERS USED IN WOOL MANUFACTURES (POUNDS).			
	1914	1909	1904	1899
Total.....	458,090,506	475,556,394	468,857,495	388,213,267
Scoured wool.....	307,705,932	352,478,605	282,194,618	238,632,452
Mohair, and camel, alpaca, and vicuna hair.....	15,994,591	7,938,735	7,198,996	5,584,442
Other animal hair.....	28,136,636	30,769,003	36,286,430	29,085,363
Recovered wool fiber.....	70,946,264	57,823,190	106,581,050	71,496,508
Purchased.....	30,158,915	24,877,557	35,782,056	34,496,508
Made for consumption.....	40,787,349	32,945,633	70,801,994	37,000,000
Cotton.....	35,307,083	26,546,861	36,593,401	43,414,502
Per cent of total.....	100.0	100.0	100.0	100.0
Scoured wool.....	67.2	74.1	60.2	61.5
Mohair, and camel, alpaca, and vicuna hair.....	3.5	1.7	1.5	1.4
Other animal hair.....	6.1	6.5	7.7	7.5
Recovered wool fiber.....	15.5	12.2	22.7	18.4
Purchased.....	6.6	5.2	7.6	8.9
Made for consumption.....	8.9	6.9	15.1	9.5
Cotton.....	7.7	5.6	7.8	11.2
Scoured wool and recovered wool fiber, total.....	378,652,196	410,301,795	388,778,668	310,128,960
Per cent of total.....	100.0	100.0	100.0	100.0
Scoured wool.....	81.3	85.9	72.6	76.9
Recovered wool fiber.....	18.7	14.1	27.4	23.1
Purchased.....	8.0	6.1	9.2	11.1
Made for consumption.....	10.8	8.0	18.2	11.9

As shown in Table 17, considerable quantities of waste and noils of wool and of animal hair were used in wool manufactures, but since practically all of these materials were originally reported as raw wool or hair, their inclusion in Table 19 would constitute direct duplication.

A feature of the development of wool manufactures during the five-year period 1909-1914 was the increase in the amount of recovered wool fiber consumed and the decrease in that of scoured wool. This tendency was just the opposite of that of the preceding five-year period, and is due largely to the demands of fashion and not especially to an attempt to cheapen the cost, since many grades of recovered wool fiber are worth more than some of the raw wool used. It must be explained, however, that the answers to the inquiry relating to the amount of recovered wool fiber produced in woolen mills for their own use were, in some instances, based upon estimates. The purchased recovered wool fiber used and that made in the establishments for use therein are shown for 1914, by states, in Table 20. Table 40 shows the amount made for use in the same establishment in 1914 and 1909 for each industry.

With the large increase in the use of wool in 1909 as compared with 1904, there was a decrease in the use of cotton as well as of recovered wool fiber; the use of cotton was much greater in 1914 than in 1909, when the amount of wool used decreased. It should be noted, however, that the increase in the quantity of cotton used during the last five years is slightly inflated by the inclusion of cotton waste with "cotton" in 1914.

The consumption of purchased yarns of silk and spun silk, and of yarns of jute, ramie, and other vegetable fibers, showed an increase in 1914 over that reported for the other years shown in Table 17, while the amount of purchased woolen, merino, and cotton yarn used was less than in any previous year for which figures are presented except cotton yarn for 1899. A smaller amount of purchased worsted yarn

was used in 1914 than in 1909, but a much larger amount than in 1904 or 1899.

With the exception of a comparatively small amount of wool and other fibers which were used in the manufacture of wool-felt hats and other felt goods, the raw fibers shown in the preceding table were used in the manufacture of yarns, which were either made for sale or for use in the establishment making them. The yarns made for sale from these fibers are to a considerable extent purchased for use by other wool-manufacturing establishments, and are included under the materials reported by such mills.

Table 20 gives, by states, the total quantity of woolen, worsted, merino, and cotton yarns, and of recovered wool fiber used in wool manufactures in 1914, including with that made by mills for their own consumption the purchased yarns and wool shoddy used.

Table 20 MATERIAL AND STATE.	YARNS AND RECOVERED WOOL FIBER USED IN WOOL MANUFACTURES (POUNDS): 1914.		
	Total.	Purchased.	Made in establishments using.
Yarns.....	451,459,215	144,392,418	307,066,797
All wool.....	344,651,302	86,697,606	257,953,696
Woolen.....	194,886,537	23,802,234	171,084,303
Connecticut ¹	11,153,343	84,437	11,068,906
Indiana ²	1,725,892	.....	1,725,892
Maine ³	16,385,995	33,264	16,352,731
Massachusetts.....	52,269,187	3,986,066	48,283,121
Michigan.....	830,250	.....	830,250
New Hampshire.....	9,116,010	81,634	9,034,376
New Jersey.....	10,489,962	1,114,365	9,375,597
New York.....	33,221,927	762,865	32,459,062
Oregon.....	2,837,679	.....	2,837,679
Pennsylvania.....	28,222,701	17,118,410	11,104,291
Rhode Island.....	4,865,101	117,991	4,747,110
Tennessee.....	1,209,627	.....	1,209,627
Vermont.....	6,288,858	4,648	6,284,210
Wisconsin ³	1,628,013	.....	1,628,013
All other states.....	14,641,992	496,554	14,143,438
Worsted.....	149,764,765	62,895,372	86,869,393
Connecticut ¹	4,413,462	4,161,962	251,500
Maine.....	1,377,791	143,317	1,234,474
Massachusetts.....	59,107,568	19,458,214	39,649,354
New Hampshire.....	7,484,970	45,638	7,439,332
New Jersey.....	12,690,199	7,066,772	5,623,427
New York.....	14,902,393	2,315,693	12,586,700
Pennsylvania.....	17,942,806	14,004,345	3,938,461
Rhode Island.....	25,580,990	14,907,573	10,673,417
Vermont.....	1,292,423	575,987	716,436
All other states.....	4,972,163	215,871	4,756,292
Merino.....	40,159,842	706,483	39,453,359
Connecticut.....	1,796,038	.....	1,796,038
Georgia.....	1,033,748	.....	1,033,748
Maine.....	2,480,768	.....	2,480,768
Massachusetts.....	10,255,004	190,469	10,064,535
New Hampshire.....	6,902,519	.....	6,902,519
Pennsylvania.....	9,373,731	352,555	9,021,176
All other states.....	8,318,034	163,459	8,154,575
Cotton.....	66,648,071	56,988,329	9,659,742
Connecticut ¹	1,640,959	1,477,480	163,479
Maine ³	4,970,336	3,443,361	1,526,975
Massachusetts.....	18,388,329	14,764,361	3,623,968
New Hampshire.....	1,418,339	1,355,139	63,200
New Jersey.....	1,290,906	1,290,906	.....
New York.....	10,015,867	8,736,856	1,279,011
Pennsylvania.....	20,503,964	18,816,137	1,687,827
Rhode Island.....	2,640,368	2,369,712	270,656
Tennessee.....	834,549	451,923	382,626
All other states.....	4,944,454	4,282,454	662,000
Recovered wool fiber.....	70,946,264	30,158,915	40,787,349
Connecticut.....	2,667,619	1,569,619	1,098,000
Maine.....	6,922,044	4,430,594	2,491,450
Massachusetts ³	25,001,968	5,853,328	19,148,640
New Hampshire.....	7,412,567	2,568,081	4,844,486
New York.....	2,994,861	2,202,861	792,000
Pennsylvania.....	10,911,473	6,780,133	4,131,340
Rhode Island.....	2,094,303	1,720,113	374,190
Tennessee.....	1,988,068	559,354	1,428,714
Vermont.....	2,238,810	777,810	1,461,000
All other states.....	8,714,551	3,697,022	5,017,529

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.

² Excludes statistics for one establishment, to avoid disclosure of individual operations.

³ Excludes statistics for two establishments, to avoid disclosure of individual operations.

Greater portions of woolen and worsted yarns, 87.8 per cent and 58 per cent, respectively, were manufactured in the establishments where used. Most of the merino yarns also were manufactured in the plant where used, only 1.8 per cent being purchased stock; but of the total quantity of cotton yarn used in wool manufactures, 85.5 per cent was purchased.

Of the purchased worsted yarn used in wool manufactures in 1914, 51,008,982 pounds, or more than four-fifths of the total (81.1 per cent), were reported by the worsted mills (see Table 21), and 9,267,278 pounds, or 14.7 per cent of the total, by carpet and rug mills (see Table 23). Of the 86,869,393 pounds of worsted yarn made for use in the same establishment, 74,629,697 pounds, or 85.9 per cent, were made in worsted mills, and 10,253,791 pounds, or 11.8 per cent, in carpet mills (see Table 40).

Some purchased worsted yarn was used by the woolen mills which manufactured worsted cloth as a secondary product, and some purchased woolen, merino, and cotton yarns were used by worsted mills in the manufacture of medium and low-grade worsted cloths. In fact, more purchased woolen and cotton yarns were consumed by worsted mills than by woolen mills, since the latter spun a larger proportion of the yarns they used than the former.

More than three-fourths of the carpet mills purchased the yarn which they used in weaving carpets, there being only 22 establishments in 1914 which bought the wool, hair, or cotton, and spun the yarn they consumed. These establishments produced for their own consumption 35,615,821 pounds of woolen, 10,253,791 pounds of worsted, and 2,068,435 pounds of cotton yarn. Thus the total amount of woolen yarn used in the manufacture of carpets and rugs was 57,242,181 pounds; of worsted yarn, 19,521,069 pounds; and of cotton yarn, 26,687,572 pounds. Practically all of the jute and linen yarns used in wool manufactures were reported by carpet mills, but neither of these yarns was reported as produced in the mills for use therein, all that was used being purchased as such. The total amount of all kinds of yarn used in the carpet and rug industry in 1914, whether purchased from others or made in the mill for use therein, was 170,542,402 pounds, of which woolen and worsted yarns represent 45 per cent; yarns of jute and other vegetable fiber, 34.7 per cent; cotton, 15.7 per cent; and linen, 4.5 per cent. In 1909, 37,184,277 pounds of woolen, 14,093,571 pounds of worsted, and 3,023,102 pounds of cotton yarn were made in the carpet mills for use therein. Thus 182,644,934 pounds of yarn were used in carpet and rug manufacture in 1909, of which woolen and worsted yarn constituted 88,289,344 pounds, or 48.3 per cent; cotton yarn, 29,189,343 pounds, or 16 per cent; yarns of jute and other vegetable fiber, 30.4 per cent; and linen yarn, 4.8 per cent. Although the quantity of woolen and worsted yarns made in the mills for use therein was not reported in 1904 and 1899, so that the

total quantity of yarn used in the carpet and rug industry can not be computed, it is evident from a study of the figures presented in Table 23 that the decline from 1909 to 1914 in the proportion of woolen and worsted yarns used and the increase in the use of yarns of jute and other vegetable fiber was merely a continuation of the tendency manifest from 1899 to 1909. The carpet yarn reported as "woolen" and as "worsted" is not composed entirely of wool, but in many cases contains a proportion of animal hair. Considerable yarn is used in the felt mills for the manufacture of woven felts. Most of this yarn is produced in the establishments in which it is consumed. Of woolen, worsted, and merino yarns, 7,681,265 pounds were used in felt mills in 1914, of which only 116,338 pounds were purchased as such, the remainder, 7,564,927 pounds, being made and consumed in the same establishments. Of cotton yarn, only 280,030 pounds were used in 1914, of which 263,780 pounds were purchased as such, the remainder, 16,250 pounds, being made in the establishments which consumed it.

Materials used in the woolen-goods and worsted-goods industries.—By reason of the close relation between the woolen-goods and worsted-goods industries, the similarity in machinery, materials, and products, and the overlapping of products, with occasional changes by individual mills from the manufacture of woolen to that of worsted fabrics, or vice versa, the statistics of materials and products for these two industries were in 1909 presented only in combination. There was, however, sufficient demand for separate figures for the two industries, so that they were later (1912) published separately by the Tariff Board.¹

Table 21 presents statistics of the quantity and cost of the principal materials used in the manufacture of woolen and worsted goods, respectively, and in the two industries combined, for 1914, 1909, 1904, and 1899, with the per cent of increase for the decade 1904-1914. The establishments were assigned to one industry or the other according to their product of chief value.

A number of the items in this table show increases from 1899 to 1909 and a decrease from 1909 to 1914. There are some rather noteworthy exceptions, however. The amount of wool used in the woolen-goods industry shows a pronounced decrease during the past decade and a relative decrease during the entire 15 years covered by the table; in 1899, 46.4 per cent of the scoured wool used in the manufacture of woolen and worsted goods was reported by establishments classed in the woolen-goods industry, whereas in 1914 only 22.8 per cent was reported by such establishments. There was, with this decrease in the use of wool by establishments in the woolen-goods industry, a large increase in the consumption of mohair, and camel, alpaca, and vicuna hair, and of waste and noils, a large percentage of these materials being used by mills making woolen goods.

¹ 62d Congress, 2d session, House Document No. 342.

Table 21

MATERIALS USED IN THE WOOLEN-GOODS AND WORSTED-GOODS INDUSTRIES.

MATERIAL.	Pounds.				Cost.				Per cent of increase, ¹ 1904-1914.	
	1914	1909	1904	1899	1914	1909	1904	1899	Pounds.	Cost.
Total cost.....					\$246,496,666	\$273,438,570	\$197,489,306	\$148,087,178	-----	24.8
Woolen goods.....					63,696,042	65,651,634	87,830,825	71,011,956	-----	-27.5
Worsted goods.....					182,800,624	207,786,936	109,658,481	77,075,222	-----	66.7
Wool:										
In condition purchased.....	434,728,075	474,755,366	418,703,811	330,178,552	108,087,619	136,666,917	105,433,451	78,803,830	3.8	2.5
Woolen goods.....	78,873,319	87,037,951	157,335,727	150,200,616	23,476,191	27,429,030	42,698,735	34,497,689	-49.9	-45.0
Worsted goods.....	355,854,756	387,717,415	261,368,084	179,977,936	84,611,428	109,237,887	62,734,716	44,306,141	36.2	34.9
Domestic.....	266,634,390	310,602,279	319,800,490	250,393,205	64,571,871	85,018,238	78,673,136	59,046,158	-16.6	-17.9
Woolen goods.....	62,236,522	73,514,264	132,656,502	127,678,662	19,312,679	23,779,436	37,311,572	29,899,065	-53.1	-48.2
Worsted goods.....	204,397,868	237,088,015	187,143,988	122,714,543	45,259,192	61,238,802	41,361,564	29,147,093	9.2	9.4
Foreign.....	168,093,685	164,153,087	98,903,321	79,785,347	43,515,748	51,648,679	26,760,315	19,757,672	70.0	62.6
Woolen goods.....	16,636,797	13,523,687	24,679,225	22,521,954	4,163,512	3,649,594	5,387,163	4,598,624	-32.6	-22.7
Worsted goods.....	151,456,888	150,629,400	74,224,096	57,263,393	39,352,236	47,999,085	21,373,152	15,159,048	104.1	84.1
Equivalent in scoured condition.....	257,448,746	290,706,970	241,280,065	192,705,519					6.7	-----
Woolen goods.....	58,693,405	60,126,473	102,106,291	89,366,903					-42.5	-----
Worsted goods.....	198,755,341	230,580,497	139,173,774	103,338,616					42.8	-----
Mohair, and camel, alpaca, and vicuña hair.....	14,359,457	7,805,422	6,507,631	5,003,966	4,455,354	2,399,123	1,957,581	1,857,707	120.7	127.6
Woolen goods.....	2,270,349	1,290,035	1,311,741	1,355,426	613,729	346,634	375,378	491,168	73.1	63.5
Worsted goods.....	12,089,108	6,515,387	5,195,890	3,648,540	3,841,625	2,052,489	1,582,203	1,366,539	132.7	142.8
Other animal hair.....	14,761,502	17,356,100	22,987,332	20,535,079	1,062,810	932,911	1,369,776	1,170,756	-35.8	-22.4
Woolen goods.....	13,928,703	16,429,808	22,442,973	19,679,181	993,554	848,178	1,304,690	1,090,796	-37.9	-23.8
Worsted goods.....	832,799	926,292	544,359	855,898	69,256	84,733	65,086	79,960	53.0	6.4
Cotton.....	28,387,022	20,024,061	32,613,408	40,244,710	3,241,352	2,515,409	4,072,907	3,280,000	-13.0	-20.4
Woolen goods.....	23,915,496	15,801,394	28,279,832	34,967,959	2,531,509	1,926,419	3,496,285	2,755,485	-15.4	-27.6
Worsted goods.....	4,471,526	4,222,667	4,333,576	5,276,751	709,843	588,990	576,622	524,515	3.2	23.1
Rags, clippings, etc.....	59,425,149	40,402,460	79,367,290	-----	4,754,308	2,856,966	5,668,634	2,817,663	-25.1	-16.1
Woolen goods.....	58,745,594	38,387,554	79,361,946	(?)	4,717,847	2,691,458	5,668,272	2,817,663	-25.0	-16.8
Worsted goods.....	679,555	2,014,906	5,344	-----	36,461	165,508	362	-----	-----	-----
Recovered wool fiber.....	26,276,924	21,454,187	31,919,456	33,036,767	3,551,217	3,058,214	4,472,666	4,070,836	-17.7	-20.6
Woolen goods.....	25,960,307	20,118,305	29,591,899	31,228,940	3,500,297	2,835,067	4,059,651	3,767,192	-12.3	-13.8
Worsted goods.....	316,617	1,335,882	2,327,557	1,807,827	50,920	223,147	413,015	303,644	-86.4	-87.7
Waste and noils of wool, mohair, camel hair, etc.....	42,411,874	26,473,311	26,032,838	15,714,171	8,906,485	7,523,283	6,056,227	3,891,369	62.9	47.1
Woolen goods.....	37,881,087	23,743,175	23,768,963	13,772,625	7,478,656	6,682,902	5,345,740	3,320,019	59.4	39.9
Worsted goods.....	4,530,787	2,730,136	2,263,875	1,941,546	1,427,829	840,381	710,487	571,350	100.1	101.0
Tops purchased.....	29,106,307	20,828,245	9,160,929	5,566,108	16,679,819	14,614,527	5,073,078	2,865,546	217.7	228.8
Woolen goods.....	590,716	558,938	198,746	305,333	303,283	412,590	113,464	163,964	197.2	167.3
Worsted goods.....	28,515,591	20,269,307	8,962,183	5,260,775	16,376,536	14,201,937	4,959,614	2,701,582	218.2	230.2
Yarns, purchased.....	90,925,586	102,550,361	72,677,847	71,255,047	57,195,198	68,586,014	37,842,274	30,244,423	25.1	51.1
Woolen.....	2,163,371	931,222	5,750,088	5,906,862	1,174,815	558,270	2,622,882	2,675,143	-62.3	-55.2
Woolen goods.....	801,270	338,131	3,725,110	3,059,771	272,450	170,193	1,462,702	1,272,954	-78.5	-81.4
Worsted goods.....	1,367,101	593,091	2,024,978	2,847,091	902,365	388,077	1,160,180	1,402,189	-32.5	-22.2
Worsted.....	53,626,797	59,148,771	31,047,516	25,110,939	44,660,712	56,033,701	24,904,511	19,495,251	72.7	79.3
Woolen goods.....	2,617,815	5,821,394	4,278,253	6,214,076	2,112,950	5,576,492	3,431,418	4,791,079	-38.8	-38.4
Worsted goods.....	51,008,982	53,327,377	26,769,263	18,896,863	42,547,762	50,457,209	21,473,093	14,704,172	90.6	98.1
Merino.....	530,863	1,971,709	2,458,085	3,634,679	168,519	318,456	581,107	664,527	-78.4	-71.0
Woolen goods.....	479,837	1,876,073	1,579,080	3,215,245	145,250	264,867	260,989	516,636	-69.6	-44.3
Worsted goods.....	51,026	95,636	879,005	419,434	23,269	53,589	320,118	147,891	-94.2	-92.7
Cotton.....	32,105,412	39,169,388	32,598,072	35,342,726	9,076,933	10,492,185	8,032,773	6,814,279	-1.5	13.0
Woolen goods.....	15,316,551	16,888,501	18,878,949	21,922,136	3,601,304	3,855,752	4,205,006	3,782,240	-18.9	-14.4
Worsted goods.....	16,788,861	22,280,887	13,719,123	13,420,590	5,475,629	6,636,433	3,827,767	3,032,039	22.4	43.1
Silk and spun silk.....	515,950	282,536	412,307	131,915	2,010,885	1,142,663	1,679,883	529,789	25.1	19.7
Woolen goods.....	111,580	70,959	107,377	57,964	274,857	227,319	364,732	218,146	3.9	-24.6
Worsted goods.....	404,370	211,577	304,930	73,951	1,736,028	915,344	1,315,151	311,643	32.6	32.0
All other.....	1,978,093	1,046,735	411,779	1,127,926	103,334	40,739	21,118	65,434	380.4	389.3
Woolen goods.....	1,975,173	1,044,565	397,108	1,126,612	96,940	40,550	18,141	64,382	397.4	434.4
Worsted goods.....	3,120	2,170	14,671	1,314	6,394	189	2,977	1,052	-78.7	114.8
Chemicals and dyestuffs.....					8,536,232	8,820,928	7,456,550	6,595,160	-----	14.5
Woolen goods.....					3,517,991	3,370,501	4,632,981	3,968,020	-----	-24.1
Worsted goods.....					5,018,241	5,450,427	2,823,569	2,627,140	-----	77.7
All other materials.....					30,026,272	25,464,278	18,086,162	12,489,888	-----	66.0
Woolen goods.....					6,831,338	8,973,682	10,392,641	7,491,523	-----	-34.3
Worsted goods.....					23,194,934	16,490,596	7,693,521	4,998,365	-----	201.5

¹ A minus sign (-) denotes decrease.² Not reported separately.

A large proportion of the total raw fibers used in the woolen-goods industry in 1914 was of other than scoured wool, the amount of recovered wool fiber (if to that purchased as such be added that made in the mill for use therein from purchased rags) actually exceeding that of scoured wool, while wool waste and noils, cotton, and animal hair were also consumed in

large amounts. Scoured wool was the only one of these raw fibers extensively used in the worsted-goods industry, wool waste and recovered wool fibers not being suitable for use in the manufacture of worsted yarn. These materials are not all "raw fibers," some of them having gone through some of the processes of manufacture; but the noils (wool rejected by the

combing machine), the other "waste," and the recovered wool fiber are used in practically the same way as raw wool in the spinning of woolen yarn, and therefore should be classed in this group in a comparison of the woolen-goods and worsted-goods industries.

The following table shows the amount of the different kinds of fibers used in the woolen-goods and worsted-goods industries in 1914:

MATERIAL.	FIBERS USED IN MANUFACTURE OF WOOLEN AND WORSTED GOODS IN 1914.					
	Pounds.		Per cent distribution.		Per cent of total.	
	Woolen goods.	Worsted goods.	Woolen goods.	Worsted goods.	Woolen goods.	Worsted goods.
Total.....	202,265,573	221,460,207	100.0	100.0	47.7	52.3
Scoured wool.....	58,693,405	198,755,341	29.0	89.7	22.8	77.2
Wool waste and noils.....	34,557,179	4,324,781	17.1	2.0	88.9	11.1
Recovered wool fiber.....	65,576,533	780,646	32.4	0.4	98.8	1.2
Purchased.....	25,960,307	316,617	12.8	0.1	98.8	1.2
Made for consumption.....	39,616,226	464,029	19.6	0.2	98.8	1.2
Animal hair.....	16,199,052	12,921,907	8.0	5.8	55.6	44.4
Mohair, camel, alpaca, and vicuna noils.....	3,323,908	206,006	1.6	0.1	94.2	5.8
Cotton.....	23,915,496	4,471,526	11.8	2.0	84.2	15.8

Materials used in the carpet and rug industry.—Table 23 shows the quantity and cost of the principal materials used in the carpet and rug industry for 1914, 1909, 1904, and 1899.

MATERIAL.	MATERIALS USED IN THE CARPET AND RUG INDUSTRY.			
	1914	1909	1904	1899
Total cost.....	\$42,280,223	\$39,563,004	\$37,947,954	\$27,228,719
Wool:				
In condition purchased—				
Pounds.....	52,552,449	64,135,020	51,320,521	51,871,334
Cost.....	\$10,493,743	\$11,752,396	\$10,431,146	\$8,104,107
Equivalent of above in scoured condition, pounds..	39,218,831	51,474,353	31,551,895	37,560,231
Animal hair:				
Pounds.....	3,469,283	5,400,944	6,805,802	6,189,757
Cost.....	\$402,225	\$474,057	\$593,588	\$549,610
Cotton:				
Pounds.....	3,802,789	5,147,130	1,997,369	1,943,942
Cost.....	\$343,916	\$533,302	\$251,112	\$129,449
Waste and noils:				
Pounds.....	3,419,715	2,732,034	2,172,481	2,325,054
Cost.....	\$476,610	\$513,392	\$341,309	\$305,733
Yarns, purchased:				
Woolen—				
Pounds.....	21,626,360	25,718,747	32,431,400	32,996,316
Cost.....	\$5,821,848	\$5,036,118	\$6,648,001	\$5,030,654
Worsted—				
Pounds.....	9,267,278	11,292,749	11,355,993	9,218,267
Cost.....	\$4,592,906	\$5,588,915	\$5,405,072	\$3,544,860
Cotton—				
Pounds.....	24,619,137	26,166,241	27,421,831	19,823,561
Cost.....	\$4,637,673	\$4,772,594	\$4,757,850	\$2,744,928
Linen—				
Pounds.....	7,602,200	8,792,876	8,228,200	8,388,211
Cost.....	\$1,414,924	\$1,606,009	\$1,355,892	\$1,164,826
Jute, ramie, and other vegetable fiber—				
Pounds.....	59,148,266	55,592,343	49,119,558	38,846,413
Cost.....	\$6,040,186	\$3,926,694	\$3,404,516	\$2,476,029
Other yarns—				
Pounds.....	341,114	781,028	1,112,138	426,384
Cost.....	\$658,254	\$408,121	\$339,285	\$332,682
Chemicals and dyestuffs, cost.....	\$1,378,509	\$1,729,492	\$1,467,476	\$1,151,726
All other materials, cost.....	\$6,019,429	\$3,221,914	\$2,952,707	\$1,694,115

Materials used in the felt-goods industry.—Table 24 gives the quantity and cost of the principal materials used in the manufacture of felt goods for 1914, 1909, 1904, and 1899.

This industry shows substantial increases in all the important materials used. Wool (in scoured condi-

tion), recovered wool fiber, and wool waste and noils represent more than half of the total quantity of materials used, but the importance of animal hair (principally cattle hair, but including some mohair, camel hair, etc.), and cotton are increasing, the quantity of these materials used having advanced from 29.1 per cent of the total in 1899 to 44.8 per cent in 1914.

MATERIAL.	MATERIALS USED IN THE FELT-GOODS INDUSTRY.			
	1914	1909	1904	1899
Total cost.....	\$8,308,270	\$6,967,206	\$5,754,026	\$3,801,026
Wool:				
In condition purchased—				
Pounds.....	14,969,852	12,409,826	11,868,238	9,606,266
Cost.....	\$4,030,114	\$3,927,393	\$3,388,588	\$2,196,444
Equivalent of above in scoured condition, pounds..	10,476,716	9,308,172	8,131,082	6,468,099
Animal hair, etc.:				
Pounds.....	11,540,635	8,144,011	6,974,634	2,819,522
Cost.....	\$739,955	\$239,244	\$373,797	\$125,800
Cotton:				
Pounds.....	3,117,272	1,375,670	1,982,624	1,225,855
Cost.....	\$297,632	\$155,815	\$217,200	\$77,688
Recovered wool fiber:				
Pounds.....	3,502,795	2,536,243	1,532,127	712,377
Cost.....	\$409,518	\$261,878	\$157,031	\$80,733
Waste and noils:				
Pounds.....	4,064,699	4,874,712	1,948,969	2,653,599
Cost.....	\$1,019,687	\$1,220,110	\$452,509	\$552,999
Chemicals and dyestuffs, cost.....	\$269,921	\$219,891	\$189,750	\$128,299
All other materials, cost.....	\$1,541,443	\$942,875	\$975,151	\$639,077

Materials used in the wool-felt hat industry.—Table 25 gives the quantity and cost of materials used in the manufacture of wool-felt hats for 1914, 1909, 1904, and 1899.

MATERIAL.	MATERIALS USED IN THE WOOL-FELT HAT INDUSTRY.			
	1914	1909	1904	1899
Total cost.....	\$978,339	\$2,472,263	\$1,369,810	\$2,042,200
Wool:				
In condition purchased—				
Pounds.....	606,957	1,203,498	1,633,525	2,713,377
Cost.....	\$298,345	\$404,127	\$495,594	\$788,977
Equivalent of above in scoured condition, pounds..	561,639	989,110	1,231,576	1,898,600
Wool waste and noils:				
Pounds.....	454,099	1,281,764	287,363	862,988
Cost.....	\$213,851	\$661,172	\$119,407	\$370,799
Wool-felt hat bodies and hats in the rough:				
Dozens.....	13,449	21,864	12,089	4,939
Cost.....	\$26,646	\$83,020	\$25,997	\$13,929
Chemicals and dyestuffs, cost.....	\$34,501	\$104,503	\$63,905	\$108,501
All other materials, cost.....	\$404,996	\$1,219,441	\$664,907	\$760,010

The great decrease in the production of wool-felt hats in 1914 as compared with previous census years was, of course, accompanied by a decrease in the amount of materials required. The quantity of scoured wool used in the manufacture of wool-felt hats in 1914 was less than one-third of the quantity used in 1899, while the quantity of waste and noil decreased almost 50 per cent during the 15 years on the other hand, the cost of hat bodies and hats in the rough purchased as materials in 1914 was nearly twice as great as in 1899, although these constituted only a small proportion of the total materials used.

Materials used in wool manufactures, by states.—Table 26 gives the quantity and cost of the principal materials used in wool manufactures (all five branches combined) in 1914, 1909, 1904, and 1899.

MATERIAL AND STATE.	PRINCIPAL MATERIALS USED IN WOOL MANUFACTURES.							
	Pounds.				Cost.			
	1914	1909	1904	1899	1914	1909	1904	1899
Wool:								
In condition purchased.....	502,857,333	552,503,710	483,526,095	394,369,523	\$122,909,821	\$152,750,833	\$119,748,779	\$89,893,350
Connecticut ¹	9,005,960	10,172,622	12,765,250	11,203,573	2,850,562	3,767,739	3,844,374	3,238,697
Maine ²	8,963,005	13,115,532	15,114,848	19,294,305	3,149,093	4,863,487	5,003,956	4,383,208
Massachusetts.....	² 165,039,667	³ 167,993,961	² 139,798,692	⁴ 117,711,349	² 40,325,696	³ 47,193,010	² 36,508,293	⁴ 26,456,901
New Hampshire.....	17,131,490	22,734,062	18,608,958	16,218,609	4,865,530	7,011,493	(⁵)	(⁵)
New Jersey.....	50,400,202	44,922,157	37,944,206	18,669,055	11,883,474	11,826,250	6,968,798	5,228,399
New York.....	60,420,225	62,829,067	49,608,834	44,239,280	13,158,906	14,719,116	11,534,048	8,753,243
Pennsylvania.....	84,879,429	107,044,311	99,306,459	73,162,801	20,071,113	28,309,853	22,589,076	17,309,380
Rhode Island.....	62,627,429	79,082,314	66,069,085	50,857,087	15,412,556	22,768,723	16,907,448	11,228,142
All other states.....	44,389,926	44,609,684	44,309,763	43,013,464	11,192,891	12,291,162	16,392,856	13,295,380
Domestic.....	277,588,101	320,530,329	330,963,563	257,934,562	67,486,811	88,243,931	82,073,949	61,057,383
Connecticut ¹	7,924,204	9,084,587	11,831,199	9,709,648	2,492,498	3,474,052	3,523,049	2,718,264
Maine ²	6,752,924	9,575,975	12,390,314	16,172,948	2,518,091	3,585,232	4,160,873	3,617,005
Massachusetts.....	² 85,349,530	³ 96,268,287	² 92,006,872	⁴ 75,174,857	² 20,022,913	³ 25,664,325	² 23,808,548	⁴ 16,970,289
New Hampshire.....	5,818,251	12,027,487	13,998,513	14,637,111	1,721,846	3,383,625	(⁵)	(⁵)
New Jersey.....	32,602,750	31,109,309	33,963,274	213,022,301	7,002,031	6,896,485	5,638,501	² 3,611,294
New York.....	25,051,729	22,362,412	22,456,770	18,692,443	5,826,676	6,754,854	5,769,932	4,182,727
Pennsylvania.....	45,181,154	56,781,645	52,605,952	32,709,796	10,957,850	15,674,908	12,711,189	9,843,698
Rhode Island.....	43,352,801	58,108,445	56,776,005	41,014,744	10,185,240	15,468,437	13,804,403	8,333,755
All other states.....	24,924,758	25,212,182	34,934,664	36,800,714	6,759,666	7,342,013	12,357,454	11,780,351
Foreign.....	225,269,232	231,973,381	152,562,532	136,434,961	55,423,010	64,506,902	37,674,830	28,835,967
Connecticut ¹	1,081,756	1,088,035	934,051	1,493,925	358,064	293,687	321,325	520,433
Maine ²	2,210,081	3,539,557	2,724,534	3,121,357	631,002	1,278,255	843,083	766,203
Massachusetts.....	² 79,690,137	³ 71,725,674	² 47,791,820	⁴ 42,536,492	² 20,302,783	³ 21,528,685	² 12,699,745	⁴ 9,486,612
New Hampshire.....	11,313,239	10,706,575	4,610,445	1,581,498	3,143,684	3,627,868	(⁵)	(⁵)
New Jersey.....	17,797,452	13,812,848	3,980,932	23,646,754	4,881,443	4,929,765	1,330,227	² 1,617,105
New York.....	35,368,496	40,466,655	27,152,064	25,546,837	7,332,230	7,964,262	5,764,116	4,570,516
Pennsylvania.....	39,068,275	50,262,666	46,700,507	40,453,005	9,113,263	12,634,945	8,205,686	7,465,682
Rhode Island.....	19,274,628	20,973,869	9,293,080	9,842,343	5,227,316	7,300,286	3,103,045	2,894,387
All other states.....	19,465,168	19,397,502	9,375,099	6,212,750	4,433,225	4,949,149	5,407,603	1,515,029
Equivalent in scoured condition.....	307,705,932	352,478,605	282,194,618	238,632,452				
Connecticut ¹	6,386,974	7,045,156	8,205,794	7,271,894				
Maine ²	7,251,676	10,221,289	11,016,422	10,567,069				
Massachusetts.....	² 99,914,078	³ 108,243,103	² 83,817,768	⁴ 66,673,079				
New Hampshire.....	12,551,304	13,793,500	(⁵)	(⁵)				
New Jersey.....	28,471,130	22,914,674	(⁵)	² 10,148,167				
New York.....	37,448,054	45,637,550	27,823,052	29,054,826				
Pennsylvania.....	54,326,916	69,864,549	60,609,266	56,492,593				
Rhode Island.....	31,499,327	43,153,225	36,551,598	23,884,049				
All other states.....	29,856,473	31,605,559	54,170,718	34,540,775				
Hair: Mohair and camel, alpaca, vicuña, and all other animal hair and fur.....	44,131,227	38,707,738	43,485,426	34,669,805	6,660,411	4,045,809	4,423,593	3,791,072
Maine ²	3,800,538	2,657,327	2,127,980	2,250,078	994,714	562,814	477,768	556,793
Massachusetts.....	² 5,399,163	³ 3,876,452	² 4,847,564	⁴ 3,570,129	² 1,710,701	³ 1,100,038	² 1,242,051	⁴ 791,571
New Jersey.....	1,610,842	2,730,077	² 361,220	² 91,185	121,011	91,897	39,550	² 11,912
New York.....	5,437,285	6,611,888	2,310,985	2,163,130	747,981	819,729	275,573	148,750
Pennsylvania.....	17,128,417	20,571,702	30,582,588	24,006,714	1,583,514	1,032,196	1,807,059	1,498,480
All other states.....	10,754,982	2,260,292	3,255,089	2,588,569	1,502,490	360,655	581,592	783,566
Woolton.....	35,307,083	26,546,861	36,593,401	43,414,502	3,882,900	3,204,526	4,541,219	3,487,132
Connecticut ¹	964,377	558,585	1,504,567	1,697,350	125,445	82,852	175,622	159,424
Maine ²	2,933,786	1,986,953	3,132,243	2,298,770	397,756	253,408	431,592	247,988
Massachusetts.....	10,814,793	10,143,678	9,856,972	8,764,779	1,263,958	1,306,820	1,306,313	792,116
New Hampshire.....	2,290,290	459,543	(⁵)	² 2,766,830	270,495	78,358	(⁵)	² 155,910
New Jersey.....	119,518	228,378	625,301	² 1,519,668	8,968	26,541	69,456	² 106,294
New York.....	3,486,922	2,472,801	2,724,025	2,312,248	325,971	265,039	350,838	177,206
Pennsylvania.....	7,285,788	5,017,601	5,659,285	12,822,020	626,466	536,262	625,052	869,452
Rhode Island.....	964,914	579,139	1,847,509	3,535,334	141,648	96,882	290,491	360,241
All other states.....	6,446,695	5,070,183	11,243,499	8,197,503	722,193	627,364	1,291,855	618,501
Scoured wool fiber.....	30,158,915	24,877,557	35,782,056	34,496,508	4,016,382	3,387,155	4,833,949	4,195,744
Connecticut ¹	1,569,619	1,593,181	2,457,223	4,461,072	245,792	295,442	323,976	489,976
Maine ²	4,430,594	4,094,185	4,114,911	3,094,185	671,242	484,770	602,176	464,512
Massachusetts.....	² 5,853,328	3,687,530	8,398,940	9,808,403	² 692,537	547,990	1,030,990	1,145,006
New York.....	2,202,861	990,526	2,231,909	648,362	249,611	140,926	273,609	116,517
Pennsylvania.....	6,780,133	5,419,245	7,346,250	6,874,350	706,934	550,473	904,165	747,195
Rhode Island.....	1,720,113	1,546,464	4,273,269	2,101,252	269,621	259,829	631,450	369,287
All other states.....	7,602,267	7,546,426	6,959,554	7,508,884	1,180,645	1,107,725	1,067,582	863,251
Waste and nolls of wool, mohair, camel hair, etc.....	50,350,387	35,361,846	30,441,941	21,555,797	10,616,633	9,917,963	6,969,557	5,120,886
Connecticut ¹	1,953,136	1,871,548	2,263,438	1,186,679	516,396	466,078	517,193	254,264
Maine ²	4,564,425	2,380,110	1,850,639	1,048,310	893,273	716,536	427,032	323,838
Massachusetts.....	² 10,959,863	³ 9,996,811	² 8,935,753	⁴ 4,500,406	² 2,657,705	³ 2,692,110	² 2,314,666	⁴ 1,224,739
New Jersey.....	6,160,433	1,586,752	973,898	² 1,209,093	1,227,346	557,593	246,702	² 326,636
New York.....	4,983,209	4,413,834	3,214,128	3,047,678	1,089,584	1,231,700	736,555	724,615
Pennsylvania.....	8,930,422	5,858,435	4,384,062	6,517,274	1,669,422	1,463,775	671,882	1,266,189
Rhode Island.....	2,075,203	2,578,085	3,160,612	2,005,717	471,491	839,389	880,816	588,764
All other states.....	10,723,696	6,676,271	5,659,411	2,040,640	2,091,416	1,950,782	1,174,711	411,841
Tops, purchased.....	29,177,790	21,103,510	10,843,036	5,865,566	16,707,322	14,755,409	5,379,333	3,022,974
Massachusetts.....	9,110,710	³ 5,039,116	2,999,927	1,576,891	4,974,310	³ 3,461,319	1,605,067	762,140
Pennsylvania.....	4,029,376	2,445,813	1,273,118	747,353	2,288,774	1,530,899	595,512	389,014
Rhode Island.....	10,221,069	10,406,834	4,150,072	2,874,537	6,516,989	7,887,543	2,455,639	1,499,364
All other states.....	5,816,635	3,211,747	2,419,919	666,785	2,927,249	1,875,648	723,115	372,456
Yarns, purchased.....	214,451,204	231,359,792	203,079,791	181,104,221	80,468,752	90,017,898	59,904,637	45,588,908
Connecticut ¹	5,775,136	6,372,748	4,593,783	3,883,434	4,431,030	6,056,001	3,186,754	2,379,536
Maine ²	3,631,773	3,424,663	3,670,867	1,700,484	1,266,335	1,010,516	1,751,413	649,061
Massachusetts.....	44,334,079	46,077,736	32,266,465	23,428,914	22,026,410	24,461,745	13,249,978	9,718,024
New Hampshire.....	1,526,795	1,749,948	(⁵)	² 2,045,445	458,770	729,652	(⁵)	² 185,655
New Jersey.....	11,654,345	10,125,494	6,926,904	7,318,745	7,002,308	6,777,696	1,932,252	1,266,279
New York.....	44,743,528	44,329,490	38,741,798	30,752,854	7,026,393	6,528,630	5,409,437	3,709,827
Pennsylvania.....	70,322,421	88,523,601	87,267,624	89,958,312	22,604,499	26,776,433	20,658,795	18,255,571
Rhode Island.....	17,529,845	19,267,818	17,756,202	13,312,189	12,831,499	13,915,166	10,889,316	7,476,510
All other states.....	14,930,282	11,518,294	11,856,148	8,703,844	2,821,508	3,162,059	2,806,692	1,948,445

(See footnotes at end of table.)

Table 26—Continued.

MATERIAL AND STATE.	PRINCIPAL MATERIALS USED IN WOOL MANUFACTURES.							
	Pounds.				Cost.			
	1914	1909	1904	1899	1914	1909	1904	1899
Yarns, purchased—Continued.								
Woolen.....	23,802,234	26,649,969	38,181,488	38,903,178	\$6,998,141	\$5,594,388	\$9,270,883	\$7,705,797
Massachusetts.....	3,986,066	1,534,135	1,402,016	1,427,101	1,085,094	268,683	669,314	609,772
New Jersey.....	1,114,365	768,495	1,036,163	2,319,980	423,968	274,219	286,008	2513,098
New York.....	762,865	691,413	4,290,001	1,939,891	242,260	219,976	947,983	479,308
Pennsylvania.....	17,118,410	22,463,957	27,380,884	30,319,003	4,900,066	4,412,546	5,732,135	5,151,103
All other states.....	820,528	1,191,969	4,072,424	2,897,203	346,753	418,964	1,635,443	952,561
Worsted.....	62,895,372	70,441,520	42,403,705	34,377,736	49,254,606	61,622,616	30,309,750	23,068,988
Connecticut ¹	4,161,962	5,113,219	2,558,669	2,352,565	3,806,284	5,629,603	2,498,109	2,036,573
Massachusetts.....	19,458,214	21,470,242	11,130,612	8,992,595	16,324,771	18,923,644	8,168,150	6,779,166
New Jersey.....	7,066,772	6,240,943	1,307,443	2,412,567	5,988,147	6,011,147	995,207	2,272,094
New York.....	2,315,693	3,050,833	1,971,882	907,861	1,310,225	2,006,843	1,038,396	655,439
Pennsylvania.....	14,004,345	18,088,331	12,897,864	12,041,287	10,679,197	14,461,212	7,958,394	6,380,065
Rhode Island.....	14,907,573	13,403,194	10,382,578	7,794,620	11,422,456	11,987,111	8,069,611	5,726,002
All other states.....	980,813	3,074,758	2,154,657	1,876,241	723,526	2,603,056	1,581,883	1,219,649
Merino.....	706,483	2,672,012	3,618,407	3,904,515	203,825	427,529	770,627	709,894
Pennsylvania.....	352,555	2,242,312	2,815,943	3,501,729	106,543	309,803	506,860	597,837
All other states.....	353,928	429,700	802,464	402,786	97,282	117,726	263,767	112,057
Cotton.....	56,988,329	65,598,854	60,429,356	55,217,994	13,775,952	15,329,692	12,896,381	9,568,864
Connecticut ¹	1,477,480	1,193,956	1,689,875	1,475,188	339,935	291,770	387,894	306,802
Maine ²	3,443,361	2,449,258	2,905,774	971,083	1,113,711	813,080	604,875	186,600
Massachusetts.....	14,764,361	15,425,293	12,756,599	8,617,284	4,222,281	4,212,147	3,215,052	1,853,409
New Hampshire.....	1,355,139	1,183,680	(⁵)	21,991,594	357,337	277,696	(⁵)	2146,657
New Jersey.....	1,290,906	1,702,805	2,168,820	21,399,770	250,600	345,482	460,301	2258,320
New York.....	8,736,856	7,589,373	5,739,538	6,044,486	1,822,559	1,442,375	1,120,404	835,142
Pennsylvania.....	18,816,137	26,354,704	24,488,354	25,318,664	3,849,490	5,476,389	4,451,736	4,212,352
Rhode Island.....	2,369,712	5,479,701	5,596,723	4,174,190	784,833	1,530,130	1,391,592	941,494
All other states.....	4,734,377	4,220,084	5,983,673	5,225,735	1,035,206	940,623	1,264,527	828,088
Silk and spun silk.....	794,693	479,376	488,326	320,343	2,658,673	1,464,834	1,862,336	823,538
Massachusetts.....	201,216	104,861	146,673	20,775	657,507	366,504	546,051	78,289
New Jersey.....	22,721	6,122	5,855	21,806	101,938	31,284	18,227	24,965
New York.....	10,597	15,413	21,018	13,173	30,464	53,093	61,627	51,217
Pennsylvania.....	356,266	246,038	126,132	238,388	1,001,309	596,860	450,895	509,297
Rhode Island.....	110,562	45,567	137,458	43,917	530,579	222,473	573,564	170,382
All other states.....	93,331	61,375	51,190	2,284	336,876	194,620	211,972	9,388
Linen.....	7,611,078	8,807,329	8,252,529	8,415,275	1,424,622	1,620,751	1,368,145	1,178,414
Massachusetts.....	944,122	1,195,599	1,588,434	1,179,415	183,500	215,556	255,555	162,931
New York.....	3,750,272	4,858,864	5,049,746	5,396,667	675,801	866,837	819,971	735,910
Pennsylvania.....	1,430,459	1,483,096	1,232,933	1,699,358	280,865	285,481	220,776	252,353
All other states.....	1,486,225	1,269,770	381,416	139,835	284,456	252,877	71,843	27,220
Jute, ramie, and other vegetable fiber.....	61,653,015	56,740,732	49,705,980	39,965,180	6,152,933	3,958,088	3,426,515	2,533,413
Massachusetts.....	4,789,631	6,314,491	5,084,250	2,937,310	502,408	468,588	346,348	187,182
New Jersey.....	2,087,281	1,352,412	2,406,587	23,091,776	218,885	105,193	171,613	2203,673
New York.....	29,080,107	27,857,594	21,403,311	16,436,276	2,922,044	1,881,506	1,391,661	945,911
Pennsylvania.....	18,244,249	17,645,163	18,325,514	16,839,883	1,787,029	1,234,142	1,337,999	1,152,564
All other states.....	7,451,747	3,571,072	2,486,318	659,935	722,567	268,659	178,894	44,083

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations. These are included in "all other states."

² Excludes statistics for two establishments, to avoid disclosure of individual operations. These are included in "all other states."

³ Excludes statistics for five establishments, to make figures comparable with those for 1914 and 1904. These are included in "all other states."

⁴ Excludes statistics for four establishments, to make figures comparable with those for 1914 and 1904. These are included in "all other states."

⁵ Figures not available.

Wool and wool yarns consumed in textile mills.— Some raw wool and a considerable amount of wool yarn was used in textile mills other than those engaged in wool manufactures. The following table presents for 1914, 1909, 1904, and 1899, the amount of wool

(in condition purchased), the scoured equivalent of this wool, and the amount of purchased woolen, worsted, and merino yarns consumed in each of the textile industries which reported such consumption.

Table 27

INDUSTRY.	WOOL AND WOOL YARNS CONSUMED IN TEXTILE MILLS (POUNDS).				INDUSTRY.	WOOL AND WOOL YARNS CONSUMED IN TEXTILE MILLS (POUNDS).			
	1914	1909	1904	1899		1914	1909	1904	1899
Wool (in condition purchased).....	510,008,799	559,850,995	501,468,203	412,745,779	Cotton goods.....		41,400		
Wool manufactures.....	502,857,333	552,503,710	483,526,095	394,369,523	Hosiery and knit goods.....	6,072,257	5,582,839	13,909,144	13,031,308
Woolen goods.....	78,873,319	87,037,951	157,335,727	150,200,616	Wool shoddy.....	203,868	196,097	421,492	242,997
Worsted goods.....	355,854,756	387,717,415	261,368,084	179,977,936	Fur-felt hats.....			44,000	
Carpets and rugs.....	52,552,449	64,135,020	51,320,521	51,871,334	Woolen, worsted, and merino yarns.....	115,832,891	122,714,085	102,411,024	89,383,267
Felt goods.....	14,969,852	12,409,826	11,868,238	9,606,263	Wool manufactures.....	87,404,089	99,763,501	84,203,600	77,185,429
Wool-felt hats.....	606,957	1,203,498	1,633,525	2,713,374	Woolen goods.....	3,898,922	8,035,598	9,582,443	12,489,092
Cotton goods.....		41,400			Worsted goods.....	52,427,109	54,016,104	29,673,246	22,163,388
Hosiery and knit goods.....	6,947,598	7,068,788	17,300,616	17,953,907	Carpets and rugs.....	30,961,720	37,595,684	44,823,531	42,425,553
Wool shoddy.....	203,868	237,097	597,492	422,349	Felt goods.....	116,338	116,115	124,380	80,396
Fur-felt hats.....			44,000		Cotton manufactures.....	656,789	1,613,118	1,428,077	1,531,103
Wool (equivalent of above in scoured condition).....	313,982,057	358,298,941	296,569,254	251,906,757	Cotton goods ¹	585,414	1,251,282	1,398,904	1,209,444
Wool manufactures.....	307,705,932	352,478,605	282,194,618	238,632,452	Cotton small wares.....	71,375	361,836	29,173	321,659
Woolen goods.....	58,693,405	60,126,473	102,106,291	89,366,903	Hosiery and knit goods.....	25,784,095	20,524,878	16,197,803	10,426,592
Worsted goods.....	198,755,341	230,580,497	139,173,774	103,338,616	Silk goods.....	1,987,918	610,588	581,544	239,461
Carpets and rugs.....	39,218,831	51,474,353	31,551,895	37,560,231	Wool shoddy.....		202,000		
Felt goods.....	10,476,716	9,308,172	8,131,082	6,468,097	Cordage and twine.....				682
Wool-felt hats.....	561,639	989,110	1,231,576	1,898,605					

¹ Includes cotton lace.

Only 2 per cent of the scoured wool consumed in textile mills in 1914 was reported by mills engaged in other lines than wool manufactures; the corresponding percentages for the earlier years were 1.6 in 1909, 4.8 in 1904, and 5.3 in 1899. The percentages of the total wool (in condition purchased) as reported by textile mills not engaged in wool manufactures were even smaller than those for scoured wool—1.4 in 1914, 1.3 in 1909, 3.6 in 1904, and 4.4 in 1899. This indicates that of the raw wool consumed in the cotton, hosiery, and knit goods, and shoddy mills a larger portion was purchased in scoured condition than was the case for mills engaged primarily in wool manufactures.

Of the purchased wool yarns used in textile manufactures, wool manufactures reported a smaller proportion at each succeeding census, the percentages being 86.4 in 1899, 82.2 in 1904, 81.3 in 1909, and only 75.4 per cent in 1914.

Table 28 presents the raw wool consumed in all textile industries reporting its use in 1914, by states.

STATE.	WOOL USED IN WOOL MANUFACTURES AND IN THE HOSIERY AND KNIT-GOODS AND WOOL-SHODDY INDUSTRIES (POUNDS): 1914.		
	Foreign wool (in condition purchased).	Domestic wool (in condition purchased).	Equivalent of foreign and domestic wool in scoured condition.
United States.....	226,485,535	283,523,264	313,982,057
Connecticut.....	10,625,598	8,826,124	15,214,507
Georgia.....		45,565	39,565
Illinois.....	169,794	886,721	632,195
Indiana.....	21,969	3,118,337	1,735,461
Iowa.....	341,040	314,300	461,370
Kentucky.....		409,484	389,803
Maine.....	2,358,580	7,477,808	7,943,636
Massachusetts.....	79,931,768	85,802,834	100,585,358
Michigan.....	10,700	1,632,627	1,154,222
Minnesota.....	84,000	1,723,311	994,601
New Hampshire.....	11,390,654	5,912,917	12,718,072
New Jersey.....	17,797,452	32,674,742	28,504,358
New York.....	35,575,026	27,640,117	39,953,098
North Carolina.....		304,954	247,654
Ohio.....	8,468,629	4,491,242	7,206,578
Oregon.....	6,211	3,306,308	1,689,712
Pennsylvania.....	39,441,433	46,020,586	54,662,857
Rhode Island.....	19,274,628	43,362,832	31,505,956
Tennessee.....		1,096,273	915,309
Vermont.....	332,826	1,480,118	1,759,238
Virginia.....	26,500	850,150	557,555
Washington.....		255,437	209,633
West Virginia.....	65,287	693,692	672,919
Wisconsin.....	243,035	2,937,880	2,655,995
All other states ¹	320,405	2,258,905	1,572,405

¹ All other states embrace: California, Delaware, Maryland, Missouri, South Carolina, Texas, and Washington.

Supply of wool available for manufacture.—Table 29 shows the estimated net supply of wool available for manufacture for each year from 1900 to 1914, inclusive. The figures for domestic production are the estimates of the National Association of Wool Manufacturers, and the figures for imports are taken from the report on "Commerce and Navigation of the United States."

Imports for consumption include imports direct for consumption and withdrawals for consumption of wool held in bond, and represent the quantities of foreign duty-paid wool available for consumption.

The estimated supply of wool of all classes in 1914, figured on the basis of imports, exports, and estimated domestic production, was 617,277,442 pounds, an amount larger than that in any previous year, and approached only in 1897, when the corresponding amount was 604,131,744 pounds. Inasmuch as the textile industries reported the consumption of 510,008,799 pounds of wool (in condition purchased) during the calendar year 1914 (see Table 8 of Textiles), there was apparently an excess of the available supply of wool over the consumption for that year. The difference, however, is only equal to the requirements of the mills for less than three months time. Many establishments find it necessary to keep at least a six-months' supply on hand.

It should be noted that the wool (in condition purchased) included some scoured wool, whereas the imports and estimates of domestic production are given in pounds of unscoured wool. Consequently the weight (before scouring) of the wool consumed in textile manufactures would be greater than the weight actually reported. Furthermore, the figures in this table relate to the fiscal year ending June 30, while the figures for the consumption in textile manufactures relate to the calendar year. It should be understood, also, that the large imports in 1914 were only in part technically "entered for consumption," for the imports after December 1, 1913, coming in duty free, were not "entered in bond" but taken directly out of the Government's custody and held in public and private storehouses until the market called for them. Of the 327,420,790 pounds of wool reported as "imports for consumption" for the year ending June 30, 1914, only 36,237,723 pounds were brought into the market during the first five months, while 291,183,067 pounds came in duty free during the last seven months.

It should be noted that in drawing comparisons between consumption and supply cognizance should be taken of the stocks held in the mill warehouses, which may vary greatly in different years; statistics for such stocks are, however, not available. The annual amount of domestic production and of imports entered for consumption is not necessarily consumed in the same year, the surplus being carried over from year to year, but in a series of years the supply and consumption will nearly balance each other. There are no means of ascertaining the quantity of wool consumed annually between the census years. It may or may not equal the consumption of the year of the census, but for each of the years prior to 1914 the close correspondence between the average net supply and the consumption reported corroborate both the census figures and the clip estimates. For the five years from 1905 to 1909, inclusive, the average estimated annual supply was somewhat over 500,000,000 pounds, while for the five years, 1910 to 1914, inclusive, it was more than 528,000,000 pounds.

Table 29

YEAR ENDING JUNE 30—	WOOL SUPPLY (POUNDS).							
	Domestic production. ¹	Imports for consumption.			Domestic exports.	Net supply.		Ratio of imports to net supply (per cent).
		Total.	Clothing and combing wool.	Carpet wool.		All classes.	Clothing and combing wool.	
1914.....	290,192,000	327,420,790	196,650,555	130,770,235	335,348	617,277,442	486,507,207	53.0
1913.....	296,175,300	171,591,160	75,657,840	95,933,320	770,471	466,995,989	371,062,669	36.7
1912.....	304,043,400	193,770,722	80,290,167	113,480,555	497,814,122	384,333,567	388,397,793	38.9
1911.....	318,547,900	165,900,839	69,849,893	96,050,946	484,448,739	388,397,793	388,397,793	34.2
1910.....	321,362,750	256,606,638	138,836,160	117,770,478	47,520	577,921,868	460,151,390	44.4
1909.....	328,110,749	209,216,326	117,850,771	91,365,555	28,376	537,298,699	445,933,144	38.9
1908.....	311,138,321	135,970,907	72,117,429	63,853,478	182,458	446,926,770	383,073,292	30.4
1907.....	298,294,750	196,035,251	103,582,132	92,453,119	214,840	494,115,161	401,662,042	39.7
1906.....	298,915,130	219,495,010	109,875,744	109,619,266	192,481	518,217,659	408,598,393	42.4
1905.....	295,488,438	211,287,482	98,691,605	112,595,877	123,951	506,651,969	394,056,092	41.7
1904.....	291,783,032	161,720,007	53,586,970	108,133,037	319,750	453,183,289	345,050,252	35.7
1903.....	287,450,000	179,651,038	60,405,820	119,245,218	518,919	466,582,119	347,336,901	38.5
1902.....	316,341,032	160,437,130	61,949,400	98,487,730	123,278	476,654,884	378,167,154	33.7
1901.....	302,502,382	124,863,051	43,140,108	81,722,943	199,565	427,165,868	345,442,925	29.2
1900.....	288,636,621	128,250,945	29,280,601	98,970,344	2,200,309	414,687,257	315,716,913	30.9

¹ Estimates of the National Association of Wool Manufacturers.

Summary of products for the United States: 1914.—Table 30 shows the value of the leading products made by establishments in each of the industries comprising wool manufactures, together with the combined totals. Statistics for many classes of goods not shown separately in this table are given in later

tables. The yarns, waste, etc., shown in this table and in those immediately following are only such as were made for sale. Table 40 shows the quantity of yarn and of recovered wool fiber made by mills for their own use.

Table 30

PRODUCT.	WOOL MANUFACTURES: 1914.					
	Total.	Woolen-goods industry.	Worsted-goods industry.	Carpet and rug industry.	Felt-goods industry.	Wool-hat industry.
Total value.....	\$464,249,813	\$103,815,905	\$275,668,474	\$69,128,185	\$13,692,765	\$1,944,484
Woven goods for personal wear.....	254,478,149	77,000,909	177,436,126	31,972	9,142	.....
Carpets and rugs.....	64,683,322	.....	.....	64,683,322	.....	.....
Other woven goods (blankets, upholstering goods, etc.).....	17,743,927	14,226,703	2,057,771	1,053,125	406,328	.....
Felt goods.....	13,372,340	277,511	.....	.....	13,094,829	.....
Wool-felt hats.....	1,777,225	.....	.....	.....	.....	1,777,225
Yarns.....	86,705,240	9,255,625	76,616,590	811,025	22,000	.....
Waste and noils.....	10,412,780	256,339	9,883,798	225,344	44,751	2,548
All other products.....	11,583,447	2,219,608	6,816,763	2,320,236	88,270	138,570
Contract work.....	3,493,383	579,210	2,857,426	3,161	27,445	26,141

Products of the woolen-goods and worsted-goods industries.—Table 31 gives the quantity and value of the different products of the woolen-goods and worsted-goods industries for 1914, 1909, 1904, and 1899. The totals for each of the industries are shown separately for 1914 and 1909, but only the totals for the combined industries are given for 1904 and 1899.

In comparing the percentages of increase (or decrease) in quantity shown in this table with those in value, it should be borne in mind that each of the separate classes of products listed includes a variety of grades and styles differing from one another in value; consequently no definite conclusions as to changes in prices can be drawn from this comparison. A change in the relative importance of the different grades and styles within a given class might result in a greater average value per yard for the class as a whole at one census than at the other, without any corresponding increase in the prices of any of the specific kinds of goods covered. In view of these

conditions, the Census Bureau has not deemed it desirable to compute average values for any of the classes of products shown.

A number of mills make both woolen and worsted fabrics. Such establishments are classified in one industry or the other, according to the group in which their products of chief value belong. The largest class of goods manufactured by establishments in these industries consists of fabrics designed to be made into clothing. At previous censuses this class of goods has been divided into three subclasses: (a) Goods designed for men's suitings, (b) those designed for women's dress goods, and (c) those used for overcoatings and cloakings. At the 1914 census, however, in spite of earnest efforts on the part of the bureau, some of the large manufacturers found it impossible to make the desired classification; consequently only the total for this sort of goods can be shown.

All-wool woven goods contributed somewhat over half (53.6 per cent) of the total value of products

of the woolen and worsted mills in 1914, union or cotton-mixed woven goods contributed 4.3 per cent; cotton-warp woven goods, 12.9 per cent; upholstering goods, five-tenths of 1 per cent; yarn made for sale, 22.6 per cent; and all other products, including the amount received for contract work, 6 per cent. The "all-wool" classification is not intended to include

fabrics having any admixture of cotton or other fiber (aside from animal hair), except such as may have been used to bring up a pattern or design. The "cotton-warp" classification includes goods woven with cotton weft on warp of woolen or worsted yarn, as well as goods woven on cotton warps with weft partly or wholly of wool, worsted, or hair yarns.

Table 31

PRODUCTS OF THE WOOLEN-GOODS AND WORSTED-GOODS INDUSTRIES.

PRODUCT.	1914			1909			1904	1899	Per cent of increase, ¹ 1904-1914.
	Total.	Woolen.	Worsted.	Total.	Woolen.	Worsted.			
Total value.....	\$379,484,379	\$103,815,905	\$275,668,474	\$419,743,521	\$107,118,858	\$312,624,663	\$307,941,710	\$238,744,502	23.2
All-wool woven goods:									
Square yards.....	323,037,563	85,565,208	237,472,355	322,944,365	91,526,966	231,417,399	260,567,488	216,359,702	24.0
Value.....	\$203,390,017	\$53,056,310	\$150,333,707	\$219,853,767	\$58,966,651	\$160,887,116	\$158,390,336	\$117,757,160	28.4
Woolen suitings, overcoatings, and dress goods—									
Square yards.....	90,950,381	74,220,650	16,729,731	84,641,705	74,292,529	10,349,176	113,773,492	86,621,832	-20.1
Value.....	\$55,660,503	\$45,444,007	\$10,216,496	\$56,907,413	\$48,524,619	\$8,382,794	\$66,316,381	\$51,754,067	-16.1
Worsted suitings, overcoatings, and dress goods—									
Square yards.....	222,420,785	2,508,763	219,912,022	226,110,822	7,249,428	218,861,394	127,079,304	112,622,898	75.0
Value.....	\$141,778,035	\$2,137,030	\$139,641,005	\$156,755,217	\$5,760,731	\$150,994,486	\$85,079,547	\$59,887,332	66.6
Flannels for underwear—									
Square yards.....	2,176,264	2,176,264	.....	3,856,353	3,399,913	456,440	8,710,131	9,324,720	-75.0
Value.....	\$880,494	\$880,494	.....	\$1,257,271	\$952,978	\$304,293	\$2,045,858	\$2,344,559	-57.0
Blankets—									
Square yards.....	6,489,689	5,786,215	703,474	5,137,903	4,402,330	735,573	7,316,179	5,454,173	-11.3
Value.....	\$1,186,754	\$3,843,893	\$342,861	\$3,228,797	\$2,563,019	\$665,778	\$2,751,029	\$2,316,968	52.2
Horse blankets—									
Square yards.....	102,205	102,205	.....	247,395	247,395	.....	740,237	514,952	-86.2
Value.....	\$82,398	\$82,398	.....	\$185,430	\$185,430	.....	\$418,219	\$256,211	-80.3
Carriage cloths—									
Square yards.....	514,226	514,226	(¹)	1,782,855	1,246,423	536,432	1,741,765	1,220,408	-70.5
Value.....	\$443,223	\$443,223	(¹)	\$947,862	\$623,981	\$323,881	\$964,557	\$696,999	-54.0
Carriage robes—									
Square yards.....	132,399	132,399	(¹)	85,179	85,179	.....	42,187	615	213.8
Value.....	\$158,900	\$158,900	(¹)	\$17,642	\$17,642	.....	\$93,727	\$510	69.5
Shawls—									
Square yards.....	124,486	124,486	(¹)	704,153	603,769	100,384	895,777	600,104	-86.1
Value.....	\$66,365	\$66,365	(¹)	\$404,583	\$338,251	\$66,332	\$557,370	\$500,523	-88.1
All other—									
Square yards.....	127,128	.....	127,128	378,000	.....	378,000	268,416	.....	-52.6
Value.....	\$133,345	.....	\$133,345	\$149,552	.....	\$149,552	\$163,648	.....	-18.5
Cotton-warp woven goods:									
Square yards.....	196,179,866	102,930,421	93,249,445	210,346,081	90,351,206	119,994,875	182,057,061	152,878,584	7.8
Value.....	\$48,816,015	\$22,692,131	\$26,123,884	\$62,265,854	\$23,563,020	\$38,702,834	\$50,058,293	\$42,437,799	-2.5
Wool-filling suitings, overcoatings, and dress goods—									
Square yards.....	53,509,462	48,284,320	5,225,142	60,236,428	58,313,577	1,922,851	54,939,651	48,574,845	-2.6
Value.....	\$13,598,007	\$11,878,272	\$1,719,735	\$15,621,015	\$14,523,651	\$1,097,364	\$16,586,520	\$14,345,456	-18.0
Worsted-filling suitings, overcoatings and dress goods—									
Square yards.....	56,763,091	2,696,072	54,067,019	94,643,217	3,961,730	90,681,487	65,988,989	58,447,730	-14.0
Value.....	\$15,563,099	\$665,342	\$14,897,757	\$30,003,046	\$1,413,950	\$28,589,096	\$19,680,956	\$17,690,714	-20.9
Domest flannels and shirtings—									
Square yards.....	16,092,266	16,092,266	(¹)	4,571,765	4,571,765	.....	4,285,838	4,555,013	275.5
Value.....	\$2,814,054	\$2,814,054	(¹)	\$911,967	\$911,967	.....	\$769,476	\$976,465	265.7
Linings, Italian cloths, and lastings—									
Square yards.....	36,196,243	2,355,141	33,841,102	28,928,148	2,413,630	26,514,518	17,619,325	10,157,039	105.4
Value.....	\$9,804,661	\$312,889	\$9,491,772	\$9,008,799	\$241,335	\$8,767,464	\$4,505,927	\$2,228,434	117.6
Satinets and linseys—									
Square yards.....	8,415,079	8,415,079	(¹)	5,102,460	5,102,460	.....	22,339,112	13,051,729	-62.3
Value.....	\$1,535,291	\$1,535,291	(¹)	\$912,182	\$912,182	.....	\$4,074,800	\$2,873,181	-62.3
Blankets—									
Square yards.....	17,973,821	17,973,821	(¹)	9,746,841	8,903,680	843,161	9,267,144	11,107,104	94.0
Value.....	\$3,010,070	\$3,010,070	(¹)	\$2,684,919	\$2,505,409	\$179,510	\$2,218,243	\$2,241,342	35.7
Horse blankets—									
Square yards.....	5,831,305	5,831,305	.....	4,210,098	4,197,932	12,166	6,307,836	5,702,315	-7.6
Value.....	\$1,539,526	\$1,539,526	.....	\$1,676,942	\$1,674,509	\$2,433	\$1,083,154	\$1,252,824	42.1
Carriage robes—									
Square yards.....	1,282,417	1,282,417	.....	2,889,444	2,882,171	7,273	1,309,166	1,250,233	-2.0
Value.....	\$936,687	\$936,687	.....	\$1,396,595	\$1,376,595	\$20,000	\$1,139,217	\$815,233	-17.8
All other—									
Square yards.....	116,182	.....	116,182	17,680	4,261	13,419	.....	32,576	.....
Value.....	\$14,620	.....	\$14,620	\$50,389	\$3,422	\$46,967	.....	\$4,150	.....
Union or cotton-mixed woven goods:									
Square yards.....	46,244,730	40,067,358	6,177,372	37,453,351	33,795,233	3,658,118	63,197,407	57,334,570	-26.8
Value.....	\$16,473,448	\$13,935,290	\$2,538,158	\$14,327,973	\$12,710,083	\$1,617,890	\$26,288,407	\$23,111,696	-37.3
Cotton-mixed suitings, overcoatings, and dress goods—									
Square yards.....	31,400,082	28,549,109	2,850,973	27,518,756	23,870,638	3,648,118	52,166,903	48,032,033	-39.8
Value.....	\$11,710,610	\$10,243,869	\$1,466,741	\$11,920,956	\$10,306,066	\$1,614,890	\$23,331,080	\$20,884,027	-49.8
Flannels for underwear—									
Square yards.....	4,995,575	4,995,575	.....	7,063,572	7,063,572	.....	7,273,761	6,217,094	-31.3
Value.....	\$1,089,661	\$1,089,661	.....	\$1,308,369	\$1,308,369	.....	\$1,528,928	\$1,284,578	-28.7
Blankets—									
Square yards.....	3,937,463	3,937,463	.....	1,717,758	1,717,758	.....	3,114,110	1,530,696	26.4
Value.....	\$2,067,934	\$2,067,934	.....	\$650,714	\$650,714	.....	\$1,198,706	\$561,649	72.5
Horse blankets—									
Square yards.....	2,231,162	2,231,162	(³)	694,176	694,176	.....	618,800	1,094,537	260.6
Value.....	\$395,858	\$395,858	(³)	\$186,238	\$186,238	.....	\$222,543	\$228,943	77.9
Carriage robes—									
Square yards.....	354,049	354,049	(³)	459,089	449,089	10,000	23,833	460,210	1,385.5
Value.....	\$137,968	\$137,968	(²)	\$261,696	\$258,696	\$3,000	\$7,150	\$152,499	1,829.6
All other—									
Square yards.....	3,326,399	.....	3,326,399	.....	.....	.....	.....	.....	.....
Value.....	\$1,071,417	.....	\$1,071,417	.....	.....	.....	.....	.....	.....

(See footnotes at end of table.)

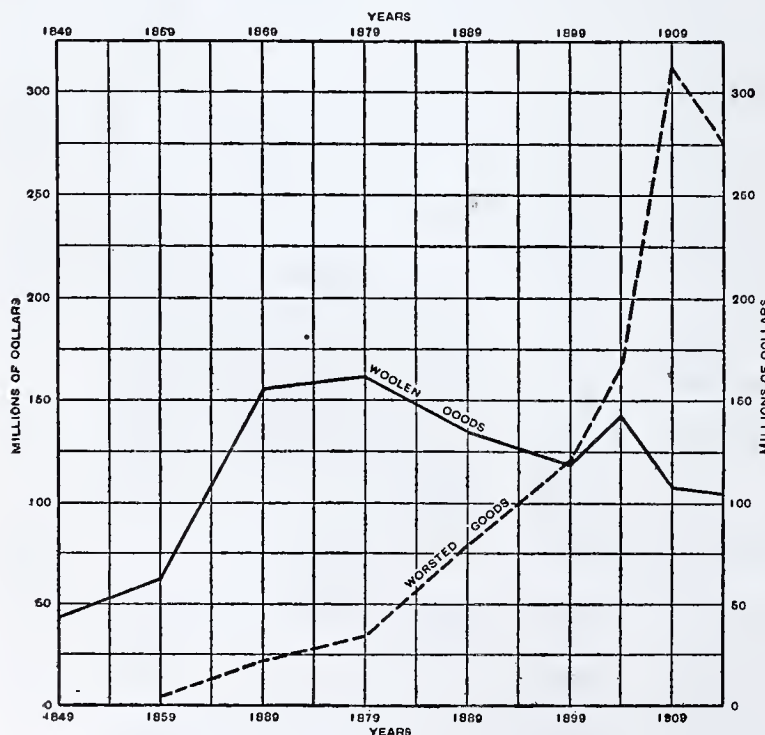
Table 31—Continued.

PRODUCT.	PRODUCTS OF THE WOOLEN-GOODS AND WORSTED-GOODS INDUSTRIES.								
	1914			1909			1904	1899	Per cent of increase, ¹ 1904-1914.
	Total.	Woolen.	Worsted.	Total.	Woolen.	Worsted.			
Upholstery goods and sundries, value..	\$2,042,029	\$1,543,881	\$498,14	\$1,986,330	\$1,121,499	\$864,831	\$1,625,233	\$3,259,727	25.6
Woolen, worsted, and mohair upholstery goods—									
Square yards.....	1,598,444	1,351,262	247,182	1,176,542	681,272	495,270	1,060,739	447,568	50.7
Value.....	\$1,809,474	\$1,539,381	\$270,093	\$1,528,648	\$1,121,499	\$407,149	\$908,937	\$742,121	99.1
All other, value.....	\$232,555	\$4,500	\$228,055	\$457,682		\$457,682	\$716,296	\$2,517,606	-67.5
Yarns for sale:									
Pounds.....	132,559,701	33,416,266	99,143,435	134,051,361	34,952,665	99,098,696	113,291,228	96,213,866	17.0
Value.....	\$85,872,215	\$9,255,625	\$76,616,590	\$94,541,753	\$8,192,183	\$86,349,570	\$56,297,342	\$43,005,566	52.5
Woolen—									
Pounds.....	26,125,575	18,723,346	7,402,229	28,520,493	22,087,764	6,432,729	42,878,320	32,699,851	-39.1
Value.....	\$8,783,020	\$6,344,824	\$2,438,196	\$7,505,412	\$5,396,612	\$2,108,800	\$9,993,894	\$6,804,626	-12.1
Worsted—									
Pounds.....	86,412,097	840,585	85,571,512	88,323,953	423,000	87,900,953	55,475,235	43,003,343	55.8
Value.....	\$69,801,271	\$400,736	\$69,400,535	\$80,395,543	\$343,931	\$80,051,612	\$40,142,077	\$30,081,425	73.9
Woolen, union or merino—									
Pounds.....	6,473,849	6,473,849		10,249,625	10,133,715	115,910	8,824,064		-26.6
Value.....	\$1,689,530	\$1,689,530		\$2,143,416	\$2,099,087	\$44,329	\$2,538,018		-33.4
Worsted, union or merino—									
Pounds.....	4,048,514		4,048,514	3,761,737	50,000	3,711,737	3,314,549	15,974,567	22.1
Value.....	\$3,173,034		\$3,173,034	\$3,522,812	\$30,000	\$3,492,812	\$2,460,558	\$4,668,125	29.0
All other—									
Pounds.....	9,499,666	7,378,486	2,121,180	3,195,553	2,258,186	937,367	2,799,060	4,536,105	239.4
Value.....	\$2,425,360	\$820,535	\$1,604,825	\$974,570	\$322,553	\$652,017	\$1,162,795	\$1,451,390	108.6
Worsted tops and slubbing:									
Pounds.....	8,985,170		8,985,170	11,321,279		11,321,279	4,772,582	(4)	88.3
Value.....	\$4,926,929		\$4,926,929	\$8,027,231		\$8,027,231	\$2,855,171	(4)	72.6
Noils:									
Pounds.....	23,961,100	91,867	23,869,233	27,479,293	335,011	27,144,282	15,379,600	12,176,843	60.8
Value.....	\$6,819,690	\$23,901	\$6,795,789	\$8,938,589	\$70,352	\$8,868,237	\$4,865,976	\$3,354,187	40.5
Waste:									
Pounds.....	26,433,970	5,769,336	20,664,634	24,420,444	3,994,358	20,426,086	18,640,925	8,673,547	41.8
Value.....	\$3,320,447	\$232,438	\$3,088,009	\$3,534,761	\$200,691	\$3,334,070	\$2,472,504	\$1,262,489	34.3
All other products, value.....	\$4,386,953	\$2,497,119	\$1,889,834	\$3,241,008	\$1,728,993	\$1,512,015	\$3,899,911	\$2,987,086	12.1
Contract work, value.....	\$3,436,636	\$579,210	\$2,857,426	\$3,026,255	\$565,386	\$2,460,869	\$1,188,537	\$1,568,783	189.1

¹ A minus sign (—) denotes decrease.² In addition, woolen and worsted goods to the value of \$2,635,889 in 1914 and \$3,183,485 in 1909 were made by establishments engaged primarily in the manufacture of other products; of these amounts products valued at \$1,500,567 in 1914 and \$1,902,187 in 1909 were made by carpet and rug and by felt-goods mills.³ Can not be shown separately; included in "all other" for the group.⁴ Worsted tops and slubbing included with worsted yarns.

The development of the woolen-goods and worsted-goods industries from 1849 to 1914 as measured by value of products is shown in the following diagram.

WOOLEN GOODS AND WORSTED GOODS—VALUE OF PRODUCTS: 1849-1914.



The great increase in the worsted-goods industry is attributable largely to the development of the man-

ufacture of worsted cloth for men's wear. In 1869 this kind of goods was just beginning to be talked about, the worsted goods made in this country before that time being confined mostly to braids and similar fabrics, and to dress goods. In 1879 there was a small amount of worsted cloth manufactured. Since that time this branch of wool manufactures has developed very rapidly. The popularity of worsted cloths accounts in some measure—perhaps in large measure—for the decrease in the manufacture of carded woolen goods.

Products of the carpet and rug industry.—This section of the report covers the operations of establishments which manufacture woven carpets and rugs from materials whose component of chief value is wool in some form. The formal designation of the industry is "carpets and rugs, other than rag," the manufacture of rag carpets (as a primary product) being treated as a separate industry. The manufacture of "grass" carpets is reported under the industry designation "mats and matting," while "jute carpets and rugs" are included among the products of the jute-goods industry.

The relative importance of this industry as compared with the other industries devoted to the manufacture of floor coverings is shown in Table 32, on the following page.

Table 32

	FLOOR COVERINGS: 1914.						PER CENT OF TOTAL.				
	Total.	Carpets and rugs, other than rag.	Rag carpets.	Mats and matting.	Oilcloth and linoleum, floor.	Wood carpet.	Carpets and rugs, other than rag.	Rag carpets.	Mats and matting.	Oilcloth and linoleum, floor.	Wood carpet.
Number of establishments.....	596	97	463	12	18	6	16.3	77.7	2.0	3.0	1.0
Persons engaged.....	41,968	33,101	2,900	977	4,798	192	78.9	6.9	2.3	11.4	0.5
Proprietors and firm members.....	601	72	512	10	3	4	12.0	85.2	1.7	0.5	0.7
Salaried employees.....	2,465	1,720	258	98	367	22	69.8	10.5	4.0	14.9	0.9
Wage earners (average number).....	38,902	31,309	2,130	869	4,428	166	80.5	5.5	2.2	11.4	0.4
Primary horsepower.....	67,241	43,963	2,722	1,643	18,782	131	65.4	4.0	2.4	27.9	0.2
Capital.....	\$112,302,613	\$85,153,828	\$1,654,447	\$5,055,114	\$20,292,210	\$147,014	75.8	1.5	4.5	18.1	0.1
Salaries and wages.....	22,777,922	17,589,293	1,238,357	552,070	3,204,608	193,594	77.2	5.4	2.4	14.1	0.8
Salaries.....	3,842,230	2,873,678	243,749	96,823	600,240	27,740	74.8	6.3	2.5	15.6	0.7
Wages.....	18,935,692	14,715,615	994,608	455,247	2,604,368	165,854	77.7	5.3	2.4	13.8	0.9
Paid for contract work.....	377,645	341,286	11,983	21,230	2,000	3,146	90.4	3.2	5.6	0.8	0.8
Rent and taxes (including internal revenue).....	738,279	508,149	94,988	43,465	79,801	11,876	68.8	12.9	5.9	10.8	1.6
Cost of materials.....	55,732,369	42,280,223	721,728	1,170,214	11,251,876	308,328	75.9	1.3	2.1	20.2	0.6
Value of products ¹	92,310,074	69,128,185	2,786,439	2,235,867	17,602,336	557,247	74.9	3.0	2.4	19.1	0.6
Value added by manufacture (value of products less cost of materials).....	36,577,705	26,847,962	2,064,711	1,065,653	6,350,460	248,919	73.4	5.6	2.9	17.4	0.7

¹ In addition, jute carpets and rugs, to the value of \$1,172,257, in 1914, were reported by manufacturers of jute goods.

Table 33 shows the quantity and value of the principal products of the carpet and rug industry for 1914, 1909, 1904, and 1899. In comparing the increases or decreases in quantity with those in value, it should be remembered that each class of products includes a number of grades and styles, varying greatly in price, and that the relative quantities of these change considerably from census to census. Prior to the census of 1909 carpets were reported in running yards (ingrain 36 inches wide and others 27 inches wide), while rugs woven whole were reported in square yards. In 1914 and 1909 both carpets and rugs were reported in square yards; the figures for 1904 and 1899, therefore, have been reduced to square yards for the sake of comparability.

Table 33

PRODUCT.	CARPETS AND RUGS, OTHER THAN RAG.			
	1914	1909	1904	1899
Total value.....	\$69,128,185	\$71,188,152	\$61,586,433	\$48,192,351
Carpets and rugs:				
Square yards.....	66,340,274	81,218,881	82,670,843	76,410,050
Value.....	\$64,683,322	\$66,966,338	\$56,861,775	\$43,551,158
Axminster and moquette—				
Square yards.....	15,742,835	15,691,358	8,181,606	5,354,376
Value.....	\$18,578,693	\$17,372,706	\$8,476,140	\$5,104,531
Wilton—				
Square yards.....	5,616,263	5,343,616	2,395,058	3,926,910
Value.....	\$11,929,605	\$10,119,339	\$4,710,444	\$4,576,809
Brussels—				
Square yards.....	2,698,840	4,436,457	3,024,162	2,686,493
Value.....	\$3,995,626	\$5,550,189	\$3,898,675	\$2,979,867
Tapestry velvet—				
Square yards.....	13,227,819	10,660,170	8,033,288	4,280,066
Value.....	\$12,867,635	\$9,027,193	\$7,754,681	\$3,743,353
Tapestry Brussels—				
Square yards.....	13,614,354	17,078,476	16,108,908	8,756,199
Value.....	\$9,852,647	\$12,999,333	\$11,464,716	\$5,529,665
Ingrain carpets—				
Square yards.....	5,795,807	17,799,762	33,557,951	39,920,849
Value.....	\$2,241,294	\$6,749,672	\$13,287,302	\$14,368,930
Ingrain art squares—				
Square yards.....	3,177,563	6,131,862	7,135,546	2,722,323
Value.....	\$1,165,087	\$2,408,960	\$2,785,457	\$1,175,951
Smyrna rugs—				
Square yards.....	822,150	1,400,233	3,828,282	3,651,661
Value.....	\$870,891	\$1,660,322	\$4,134,500	\$3,680,618
Other rugs—				
Square yards.....	5,644,643	2,676,947	406,042	5,111,173
Value.....	\$3,181,844	\$1,078,633	\$349,860	\$2,391,434
All other products, value.....	\$4,444,863	\$4,221,814	\$4,724,658	\$4,641,193

¹ In addition, in 1909, carpets and rugs, to the value of \$479,161, and in 1904, to the value of \$70,000, were made in establishments engaged primarily in the manufacture of products other than those covered by the industry designation.

The aggregate production of carpets and rugs in square yards in 1914 represented a decrease of 13.2

per cent as compared with 1899 and an even greater decrease as compared with 1904 and 1909. The total value of the output shows an increase of 48.5 per cent for the fifteen-year period, and only a slight decrease for the five-year period 1909–1914. The great decrease in the production of ingrain carpets between 1899 and 1914 was only partly counterbalanced by increases in other kinds of carpets and rugs.

The number of carpet factories declined from 139 in 1909 to 97 in 1914, or 30.2 per cent. A number of establishments went out of business during the interval between the censuses, the chief cause for the discontinuance of their operations being the lessened demand for ingrain carpets and rugs, due to a change in styles. Most of the concerns which went out of business during this period formerly manufactured ingrain carpets. Eight establishments manufacturing jute carpets were classed in this industry in 1909, but are included in the “jute and jute-goods” industry in the 1914 census. The value of the products of these concerns was \$736,769 in the earlier and \$823,798 in the later year.

Of the value of all products of the establishments in the carpet and rug industry in 1914, \$69,128,185, the value of carpets and rugs alone was \$64,683,322.

Table 34 shows the percentage that the different kinds of carpets and rugs manufactured in the industry formed of the total production in 1914, 1909, 1904, and 1899.

Table 34

KIND.	PER CENT OF TOTAL PRODUCTION.			
	1914	1909	1904	1899
Carpets and rugs:				
Square yards.....	100.0	100.0	100.0	100.0
Value.....	100.0	100.0	100.0	100.0
Axminster and moquette:				
Square yards.....	23.7	19.3	9.9	7.0
Value.....	28.7	25.9	14.9	11.7
Wilton:				
Square yards.....	8.5	6.6	2.9	5.1
Value.....	18.4	15.1	8.3	10.5
Brussels:				
Square yards.....	4.1	5.5	3.7	3.5
Value.....	6.2	8.3	6.9	6.8
Tapestry velvet:				
Square yards.....	19.9	13.1	9.7	5.6
Value.....	19.9	13.5	13.6	8.6

Table 34—Continued. KIND.	PER CENT OF TOTAL PRODUCTION.			
	1914	1909	1904	1899
Tapestry Brussels:				
Square yards.....	20.5	21.0	19.5	11.5
Value.....	15.2	19.4	20.2	12.7
Ingrain carpets:				
Square yards.....	8.7	21.9	40.6	52.2
Value.....	3.5	10.1	23.4	33.0
Ingrain art squares:				
Square yards.....	4.8	7.5	8.6	3.6
Value.....	1.8	3.6	4.9	2.7
Smyrna rugs:				
Square yards.....	1.2	1.7	4.6	4.8
Value.....	1.3	2.5	7.3	8.4
Other rugs:				
Square yards.....	8.5	3.3	0.5	6.7
Value.....	4.9	1.6	0.6	5.5

Only six states reported carpet and rug manufacture in 1914. Table 35 gives for the three states which can be shown separately the percentages of the total which the output and the value of carpets and rugs constitute for 1914, 1909, 1904, and 1899.

Table 35	PER CENT OF TOTAL.				
	United States.	Massachusetts.	New York.	Pennsylvania.	All other states.
Carpets and rugs:					
Square yards—					
1914.....	100.0	14.3	36.9	36.3	12.5
1909.....	100.0	12.6	33.2	44.6	9.6
1904.....	100.0	10.2	27.3	55.4	7.2
1899.....	100.0	9.6	28.5	56.3	5.5
Value—					
1914.....	100.0	16.2	39.8	30.2	13.8
1909.....	100.0	18.2	38.0	32.2	11.6
1904.....	100.0	16.3	33.8	41.6	8.4
1899.....	100.0	15.3	34.0	44.0	6.7

The schedule used to collect the statistics for this industry required carpets and rugs to be reported separately in 1914. Rugs were to include only those woven whole. All seamed rugs—made of strips of carpet sewed together—were to be classed as carpets. When the returns were tabulated it appeared that not all the manufacturers had followed this item of their instructions and consequently letters were sent to most of them asking that they make a further report of the production of each of the three groups (carpets, seamed rugs, and unseamed rugs). The results of this inquiry are tabulated in Table 36. The correspondence regarding this inquiry revealed a number of errors in the 1914 returns as originally made, so that a certain amount of doubt must exist as to the consistency of the segregation between carpets and rugs in 1909 and in previous census years. Consequently, for purposes of comparison with earlier years, only the totals for carpets and rugs of each kind should be used, as has been done in Table 33.

In addition to the seven classes of carpets and rugs concerning which specific information was called for on the census schedule of this industry, two kinds of products, the manufacture of which was begun only comparatively recently, have become of sufficient importance to justify showing separately the statistics of their production. These products are wool and paper-fiber carpets and rugs, and chenille-Axminster rugs. Wool and paper-fiber carpets and rugs, as

reported by the six establishments engaged in their manufacture, amounted in 1914 to 4,168,954 square yards, valued at \$1,543,079. Most of this group consists of rugs woven whole, but a small amount of carpet is included, which could not be shown separately without revealing the operations of individual establishments. This group also includes a certain amount of rugs and matting made entirely of paper fiber which the manufacturers were unable to segregate from their mixed-wool and paper-fiber rugs.

Table 36

CARPETS AND RUGS, OTHER THAN RAG: 1914.

	Carpets.	Rugs, seamed.	Rugs, woven whole.
Total: Square yards.....	17,311,347	20,854,526	28,174,401
Value.....	\$15,186,790	\$25,945,708	\$23,550,824
Axminster and moquette:			
Square yards.....	1,451,752	9,637,852	4,653,231
Value.....	\$1,848,523	\$10,659,397	\$6,070,773
Wilton:			
Square yards.....	1,900,948	3,574,464	140,851
Value.....	\$3,546,480	\$8,015,747	\$367,378
Body Brussels:			
Square yards.....	693,827	2,000,819	4,194
Value.....	\$1,030,398	\$2,956,198	\$9,030
Tapestry velvet:			
Square yards.....	4,856,066	2,913,657	5,458,096
Value.....	\$4,813,992	\$2,437,296	\$5,616,347
Tapestry Brussels:			
Square yards.....	2,612,947	2,727,734	8,273,673
Value.....	\$1,706,103	\$1,877,070	\$6,269,474
Ingrain:			
Square yards.....	5,795,807		3,177,563
Value.....	\$2,241,294		\$1,165,087
Smyrna:			
Square yards.....			822,150
Value.....			\$870,891
Wool and paper fiber:			
Square yards.....			4,168,954
Value.....			\$1,543,079
Chenille-Axminster:			
Square yards.....			178,058
Value.....			\$714,798
All other:			
Square yards.....			1,297,631
Value.....			\$923,967

Chenille-Axminster rugs have been made on a small scale for a number of years, but only in 1914 was their production reported in a sufficiently large quantity to be shown separately.

Products of the felt-goods industry.—Table 37 shows the quantity and value of the principal products of the felt-goods industry for 1914, 1909, 1904, and 1899.

The value of products reported for this industry shows increases from census to census for the period covered by the table. Each of the items reported separately shows gains in both quantity and value for the decade, with the exception of felt cloths, and a slight decrease in the value of trimmings and linings. While felt cloths show a decided decrease from 1909 to 1914, this is not particularly significant, since there was considerable confusion regarding what goods should be included in this class. Although manufacturers were requested to report their production of felt cloths in 1914 in square yards, they uniformly reported the production of these goods in pounds, the quantity so reported amounting to 1,896,914 pounds; consequently no comparison as to quantity can be made with the 1909 production of felt cloths.

A large variety of products is reported by this industry, the most important being endless belts, of which

the quantity and value more than doubled during the decade 1904-1914. The endless belts are mostly woven felts, and the largest portion of this group consists of paper makers' felts. Hair felting, much of which is used as insulation for refrigerator cars and as pipe coverings, showed the largest increases in quantity and in value between 1899 and 1909.

Table 37				
PRODUCTS OF THE FELT-GOODS INDUSTRY.				
PRODUCT.	1914	1909	1904	1899
Total value.....	\$13,692,765	\$11,852,626	\$8,948,594	\$6,461,691
Felt cloths:				
Square yards.....	(2)	3,764,468	3,689,610	2,056,002
Value.....	\$797,048	\$1,381,854	\$1,830,627	\$548,543
Trimming and lining felts, felt skirts, table and piano covers:				
Square yards.....	8,369,330	5,953,410	5,145,340	2,469,830
Value.....	\$1,321,337	\$1,329,686	\$1,188,908	\$796,718
Saddle felts:				
Pounds.....	2,291,662	1,650,991	(2)	(2)
Value.....	\$973,353	\$575,849		
Endless belts:				
Pounds.....	3,941,795	3,243,034	1,770,124	\$1,114,357
Value.....	\$4,164,186	\$3,417,822	\$1,707,216	\$1,084,835
Boot and shoe linings:				
Square yards.....	3,028,286	1,661,090	2,823,137	1,052,538
Value.....	\$1,512,783	\$514,456	\$781,450	\$540,110
Hair felting:				
Square yards.....	1,350,436	1,159,999	605,214	125,000
Value.....	\$635,041	\$531,045	\$191,998	\$56,950
All other felts, value.....	\$3,691,081	\$3,549,876	\$2,592,894	\$2,261,918
All other products, value.....	\$597,936	\$552,038	\$655,501	\$1,172,617

¹ In addition, felt goods, to the value of \$181,640, were made by establishments engaged primarily in the manufacture of other products.

² Not reported.

³ Square yards.

"All other felts" include 934,962 pounds of polish-ing felts and buffing wheels, valued at \$479,115; 2,258,231 pounds of gun-wad felts, valued at \$406,606; 447,451 pounds of piano felts, valued at \$526,840; and other miscellaneous felts, to the value of \$2,278,520. The figures for the three classes of "all other felts" specified separately above may not include all of these goods manufactured in 1914, since several concerns

did not make a segregated report of their "other felt" products.

Products of the wool-felt hat industry.—Table 38 presents statistics of the products of the wool-felt hat industry for 1914, 1909, 1904, and 1899.

Table 38				
PRODUCTS OF THE WOOL-FELT HAT INDUSTRY.				
PRODUCT.	1914	1909	1904	1899
Total value.....	\$1,944,484	\$4,382,411	\$2,457,266	\$3,591,940
Wool-felt hats:				
Dozens.....	381,044	590,957	446,121	811,425
Value.....	\$1,777,225	\$3,646,787	\$2,290,070	\$3,161,361
Wool-felt hat bodies and hats in the rough:				
Dozens.....	5,715	53,896	18,587	56,006
Value.....	\$13,029	\$309,492	\$100,491	\$120,262
All other products, value....	\$154,230	\$426,132	\$66,705	\$310,317

¹ In addition, in 1914, wool-felt hats to the value of \$305,181, and in 1909, to the value of \$904,643, were made by establishments engaged primarily in other industries.

The total value of products for this industry increased by 22 per cent during the decade 1899-1909 but decreased by 55.6 per cent from 1909 to 1914. The number of wool-felt hats reported for 1914 was less than that for any previous year shown in the table. The difference between the number of wool-felt hat bodies in the rough used as materials (see Table 25) by some establishments and the number manufactured as products by others is due in part to the fact that not all these bodies were used in the same year in which made and to the further fact that some of them were purchased from establishments classified in other industries.

Products of wool-manufacturing industries as a whole, by states.—Table 39 shows, by states, the quantities and values of the different products of wool-manufacturing industries as a whole, for 1914, 1909, 1904, and 1899.

Table 39										
WOOL MANUFACTURES.										
PRODUCT AND STATE.	Quantity.				Value.				Per cent of increase, ¹ 1904-1914.	
	1914	1909	1904	1899	1914	1909	1904	1899	Square yards.	Value.
	Square yards.	Square yards.	Square yards.	Square yards.						
Total value.....					\$464,249,813	\$507,166,710	\$380,934,003	\$296,990,484		21.9
All-wool woven goods.....	323,768,983	323,444,896	260,681,119	216,683,554	203,756,781	220,079,555	158,439,261	118,014,110	24.2	28.6
Connecticut.....	16,021,944	17,987,303	18,377,887	11,549,809	12,456,958	15,103,628	11,269,666	7,970,143	-12.8	10.5
Maine.....	14,697,562	15,089,929	12,999,152	15,213,365	8,037,756	8,607,710	8,462,977	7,686,179	13.1	-5.0
Massachusetts.....	114,830,218	109,221,437	85,615,420	72,351,338	72,163,336	78,873,571	53,601,910	43,794,294	34.1	34.6
New Hampshire.....	20,880,031	25,922,838	(2)	8,173,207	10,081,736	11,791,315	(2)	4,505,426	(2)	(2)
New Jersey.....	36,464,187	26,793,087	16,804,826	8,206,886	21,434,793	18,921,354	7,591,965	3,654,178	117.0	182.3
New York.....	14,448,467	17,243,627	12,459,972	9,464,705	10,231,942	12,830,093	10,532,885	6,558,458	16.0	-2.9
Pennsylvania.....	28,987,670	33,149,873	26,622,510	19,498,412	20,577,655	22,653,317	16,102,796	10,776,645	8.9	27.8
Rhode Island.....	46,713,932	53,661,591	43,831,236	30,698,062	32,132,963	36,055,860	28,217,458	20,022,274	6.6	13.9
All other states.....	30,724,972	24,375,211	43,970,116	41,527,770	16,639,642	15,242,707	22,659,604	13,046,513	-30.1	-26.6
Woolen suitings, overcoatings, and dress goods.....	90,985,906	84,641,705	113,788,739	86,881,880	55,692,475	56,907,413	66,323,051	51,974,765	-20.0	-16.0
Connecticut.....	9,538,061	8,809,612	10,396,037	6,716,241	6,559,163	7,355,134	6,511,776	4,584,417	-8.3	0.7
Maine.....	13,806,070	12,401,175	10,208,432	11,358,923	7,390,057	6,991,470	6,477,729	6,205,822	35.2	14.1
Massachusetts.....	27,485,439	29,366,745	48,896,960	32,954,112	18,441,023	19,025,840	25,161,107	19,556,253	-43.8	-26.7
New Hampshire.....	7,257,404	8,455,368	(2)	7,746,794	4,080,149	4,480,947	(2)	4,293,273	(2)	(2)
New Jersey.....	7,078,897	4,841,944	3,622,678	2,563,951	3,677,452	4,222,487	2,120,255	1,508,235	95.4	73.4
New York.....	3,115,415	4,365,726	4,427,304	5,185,760	2,443,317	3,185,230	3,857,600	3,227,791	-29.6	-36.7
Pennsylvania.....	3,828,370	2,656,590	4,375,160	5,966,547	2,452,485	1,838,024	3,041,854	3,572,400	-12.5	-19.4
Rhode Island.....	5,163,182	4,955,093	5,147,209	3,223,487	3,106,099	3,600,703	3,158,426	2,569,738	0.3	-1.7
All other states.....	13,713,068	8,789,452	26,714,959	11,166,065	7,542,730	6,207,578	15,994,304	6,456,836	-48.7	-52.8

(See footnotes at end of table.)

Table 39—Continued.

WOOL MANUFACTURES.

PRODUCT AND STATE.	Quantity.				Value.				Per cent of increase, ¹ 1904-1914.	
	1914	1909	1904	1899	1914	1909	1904	1899	Square yards.	Value.
All-wool woven goods—Contd.										
Worsted suitings, overcoat- ings, and dress goods.....	222,420,785	226,110,822	127,079,304	112,622,898	\$141,778,035	\$156,755,217	\$85,079,547	\$59,887,332	75.0	66.6
Connecticut.....	6,351,180	7,973,637	3,078,079	2,975,355	5,776,171	7,569,400	3,550,183	3,149,666	106.3	62.7
Massachusetts.....	86,386,650	78,424,778	34,074,137	36,174,072	53,172,690	59,079,589	27,463,600	23,132,452	153.5	93.6
New Hampshire.....	13,558,848	17,279,793	(2)	115,962	5,959,261	7,204,249	(2)	94,612	(2)	(3)
New Jersey.....	29,361,290	21,886,943	13,064,724	5,610,258	17,724,341	14,650,635	5,385,562	2,126,751	124.7	229.1
New York.....	10,860,850	12,283,220	7,052,718	3,873,034	7,363,842	9,266,182	5,857,024	3,005,473	54.0	25.7
Pennsylvania.....	22,626,800	27,684,839	19,526,954	10,904,819	16,131,143	18,939,947	11,958,229	6,092,041	15.9	34.9
Rhode Island.....	41,538,522	48,586,917	37,070,497	27,321,756	29,019,070	32,377,429	24,001,061	17,332,107	12.1	20.9
All other states.....	11,736,645	11,990,695	13,212,195	25,647,642	6,631,517	7,667,788	6,863,888	4,954,230	-11.2	-3.4
Flannels for underwear.....	2,176,264	3,856,353	8,710,131	9,345,556	880,494	1,257,271	2,045,858	2,352,086	-75.0	-57.0
Massachusetts.....	336,707	506,182	1,349,300	2,219,563	158,169	207,183	439,405	689,248	-75.0	-64.0
Pennsylvania.....	393,964	796,097	436,723	633,091	179,462	430,876	120,696	238,201	-9.8	48.7
All other states.....	1,445,593	2,554,074	6,924,108	6,492,902	542,863	619,212	1,485,757	1,424,637	-79.0	-63.5
Blankets.....	7,185,584	5,638,434	7,414,563	5,465,277	4,521,546	3,454,585	2,793,284	2,325,307	-3.1	61.9
Pennsylvania.....	2,134,723	1,424,062	1,395,419	1,463,544	1,812,465	1,133,048	566,465	594,913	53.0	220.0
All other states.....	5,050,861	4,214,372	6,019,144	4,001,733	2,709,081	2,301,537	2,226,819	1,770,394	-16.1	21.7
All other.....	1,000,444	3,197,582	3,688,382	2,367,943	884,231	1,705,069	2,197,521	1,474,620	-72.9	-59.8
Maine.....	229,663	335,541	630,122	294,733	142,119	202,192	339,215	194,409	-63.6	-58.1
New York.....	410,266	594,481	979,950	346,019	393,815	378,551	818,261	303,276	-58.1	-51.9
All other states.....	360,515	2,267,560	2,078,310	1,727,191	348,297	1,124,326	1,040,045	976,935	-82.7	-66.5
Union or cotton-mixed woven goods.....	46,295,357	37,453,351	63,197,407	57,334,570	16,526,158	14,327,973	26,288,407	23,111,696	-26.7	-37.1
Connecticut.....	1,775,642	2,168,484	4,178,500	3,376,062	1,054,369	1,105,667	1,813,565	1,609,161	-57.5	-41.9
Maine.....	1,339,816	3,996,585	6,224,365	4,686,466	464,004	1,919,118	3,195,958	2,561,481	-78.5	-85.5
Massachusetts.....	18,264,936	10,236,836	13,401,999	13,706,236	6,143,131	3,332,690	5,193,788	4,541,889	36.2	18.3
New Hampshire.....	4,717,530	5,010,181	(2)	4,016,589	1,307,794	1,651,492	(2)	1,258,835	(2)	(2)
New York.....	1,356,536	549,526	4,830,873	1,995,206	380,294	232,103	1,972,886	616,273	-71.9	-80.8
Pennsylvania.....	9,883,044	5,104,428	14,026,477	17,389,245	3,321,235	2,070,669	5,797,114	5,895,384	-29.5	-42.7
Rhode Island.....	696,642	1,996,140	4,030,440	1,800,201	429,818	1,044,706	2,281,317	1,318,691	-82.7	-81.2
All other states.....	8,261,211	8,391,171	16,504,753	10,764,565	3,425,513	2,971,528	6,033,779	5,309,982	-49.9	-43.2
Cotton-mixed suitings, over- coatings, and dress goods.....	31,400,082	27,518,756	52,166,903	48,032,033	11,710,610	11,920,956	23,331,080	20,884,027	-39.8	-49.8
Connecticut.....	1,469,642	2,168,484	3,823,808	3,376,062	952,782	1,105,667	1,678,069	1,609,161	-61.6	-43.2
Maine.....	1,136,456	3,645,794	4,396,706	4,307,458	393,081	1,790,923	2,618,010	2,468,687	-74.2	-84.4
Massachusetts.....	11,962,150	6,405,030	10,404,973	9,873,008	4,319,854	2,538,174	4,636,226	3,650,889	15.0	-6.8
New Hampshire.....	3,707,146	3,973,788	(2)	3,393,938	996,761	1,436,933	(2)	1,141,998	(2)	(2)
New York.....	1,882,987	4,448,851	12,853,980	15,815,621	2,383,088	1,794,043	5,449,396	5,497,166	-46.5	-56.3
Pennsylvania.....	696,642	1,890,140	3,708,784	1,766,076	429,818	1,022,506	2,138,727	1,294,804	-81.2	-79.9
Rhode Island.....	5,545,059	4,986,669	16,978,652	9,499,870	2,235,226	2,232,710	6,910,652	5,221,322	-67.3	-67.7
All other.....	14,895,275	9,934,595	11,080,504	9,302,537	4,815,548	2,407,017	2,957,327	2,227,669	35.0	62.8
Connecticut.....	306,000	350,791	354,692	379,008	101,587	128,195	135,496	92,794	-13.7	-25.0
Maine.....	203,360	3,831,806	2,997,026	3,833,228	70,923	794,516	677,948	891,000	-88.9	-89.5
Massachusetts.....	6,302,786	1,036,393	(2)	1,573,624	1,823,277	214,559	557,562	891,000	110.3	227.0
New Hampshire.....	1,010,384	655,577	1,172,497	1,573,624	311,033	276,626	347,718	398,218	(2)	(2)
Pennsylvania.....	3,000,057	4,060,028	4,678,630	2,894,026	938,147	993,121	1,238,603	728,820	155.9	169.8
All other states.....	4,072,688	4,060,028	4,678,630	2,894,026	1,570,581	993,121	1,238,603	728,820	-13.0	26.8
Cotton-warp woven goods.....	196,338,343	210,452,401	182,135,011	152,931,679	48,862,324	62,323,086	50,092,572	42,511,960	7.8	-2.5
Connecticut.....	6,596,131	4,397,416	5,904,201	5,657,479	2,341,717	1,255,294	1,574,045	1,929,054	11.7	48.8
Maine.....	22,981,650	14,591,748	12,164,400	6,615,014	6,651,815	4,832,482	4,508,649	1,864,219	88.9	47.5
Massachusetts.....	87,653,109	104,303,227	87,766,935	55,244,610	19,504,230	24,858,337	21,834,123	13,377,088	-0.1	-10.7
New Hampshire.....	13,508,725	7,994,757	(2)	5,885,580	2,811,258	1,903,901	(2)	1,478,113	(2)	(2)
New Jersey.....	3,627,321	2,977,585	7,616,767	5,265,480	1,438,506	1,253,733	2,348,135	1,825,289	-52.4	-38.7
New York.....	7,798,270	6,515,625	3,308,760	8,209,274	2,090,211	2,255,461	1,108,174	2,973,082	135.7	88.6
Pennsylvania.....	16,459,483	30,735,963	19,452,881	31,461,257	4,945,396	10,570,357	4,958,927	7,922,626	-15.4	-0.3
Rhode Island.....	14,854,704	20,782,229	12,059,420	17,669,848	5,033,566	9,609,533	5,762,303	6,805,381	23.2	-12.6
All other states.....	22,858,950	18,153,851	33,861,647	16,923,137	4,045,625	5,783,988	7,998,216	4,337,108	-32.5	-49.4
Wool-filling suitings, over- coatings, and dress goods.....	53,509,462	60,236,428	54,939,651	48,574,845	13,598,007	15,621,015	16,586,520	14,345,456	-2.6	-18.0
Connecticut.....	3,553,542	2,171,126	1,766,051	2,236,481	1,019,521	560,095	591,412	992,508	101.2	72.4
Maine.....	4,861,954	2,244,167	4,774,737	2,876,031	1,497,661	709,016	1,974,231	640,729	1.8	-24.1
Massachusetts.....	22,818,252	22,610,651	14,876,509	9,685,725	5,189,915	5,375,123	4,578,046	3,097,267	53.4	13.4
New Hampshire.....	3,483,608	5,142,088	(2)	2,733,631	(2)	1,081,067	(2)	859,902	(2)	(2)
Pennsylvania.....	4,792,627	13,368,893	4,974,537	10,012,772	1,327,813	4,025,157	1,505,194	2,952,403	-3.7	-11.8
All other states.....	13,999,479	14,699,503	28,547,817	21,030,205	3,737,975	3,870,557	7,937,637	5,802,647	-51.0	-52.9
Worsted-filling suitings, over- coatings, and dress goods.....	56,763,091	94,643,217	65,988,989	58,447,730	15,563,099	30,003,046	19,680,956	17,690,714	-14.0	-20.9
Massachusetts.....	26,075,033	58,750,120	37,564,031	24,368,832	5,228,443	13,373,680	9,319,254	5,507,587	-30.6	-43.9
New York.....	4,300,447	3,772,957	1,518,326	4,978,801	985,105	1,326,382	640,078	1,765,320	183.2	82.4
Pennsylvania.....	8,816,213	11,103,856	8,963,067	10,212,548	3,028,015	5,243,290	2,754,821	3,194,124	-1.6	9.9
Rhode Island.....	9,545,888	15,725,716	9,767,391	15,537,229	3,251,084	7,400,686	4,891,922	6,215,272	-2.3	-33.5
All other states.....	8,025,510	5,290,568	8,176,174	3,300,320	3,070,452	2,659,008	2,174,881	1,008,411	-1.8	41.2
Satinets and linseys.....	8,518,686	5,102,460	22,343,617	13,051,729	1,546,203	912,182	4,077,233	2,873,181	-61.9	-62.1
Massachusetts.....	6,857,360	4,120,737	17,559,146	10,326,148	1,171,708	606,202	3,213,469	2,237,965	-60.9	-63.5
All other states.....	1,661,326	981,723	4,784,471	2,725,581	374,495	305,980	863,764	635,216	-65.3	-56.6
Domest flannels and shirtings.....	16,097,419	4,571,765	4,285,838	4,555,013	2,814,904	911,967	769,476	976,465	275.6	265.8
Maine.....	2,046,588	881,732	(2)	471,757	350,337	211,616	(2)	72,700	(2)	(2)
Massachusetts.....	2,882,803	794,799	1,719,849	167,000	459,888	136,605	426,274	182,700	67.6	7.9
New Hampshire.....	5,728,402	70,000	(2)	12,800	1,100,558	25,500	(2)	3,200	(2)	(2)
All other states.....	5,439,626	2,825,234	2,565,989	3,903,456	904,121	538,246	343,202	717,865	112.0	163.4
Cotton-warp blankets.....	18,139,720	9,853,161	9,340,589	11,159,532	3,059,237	2,742,151	2,250,089	2,314,003	94.2	36.0
Maine.....	3,460,409	1,743,092	2,250,661	1,824,470	986,766	675,629	684,878	535,233	53.8	44.1
Massachusetts.....	2,837,664	1,547,934	3,086,920	1,120,224	559,522	256,530	853,219	216,295	-8.1	-34.4
Pennsylvania.....	930,128	3,398,778	2,993,200	6,665,804	240,660	633,948	359,682	991,634	-68.9	-33.1
All other states.....	10,911,519	3,163,357	1,009,808	1,549,034	1,272,289	1,176,044	352,310	570,841	980.6	261.1
All other.....	43,309,965	36,045,370	25,236,327	17,142,163	12,280,874	12,132,725	6,728,298	4,310,641	71.6	82.5
Massachusetts.....	26,181,997	16,478,986	12,960,480	9,576,681	6,894,754	5,110,197	3,443,861	2,135,274	102.0	100.2
Pennsylvania.....	1,856,133	2,853,591	2,522,077	2,853,956	346,188	664,774	339,220	517,053	-26.4	2.1
All other states.....	15,271,835	16,712,793	9,753,770	4,711,526	5,039,932	6,357,754	2,945,207	1,658,314	56.6	71.1</

Table 39—Continued.

WOOL MANUFACTURES.

PRODUCT AND STATE.	Quantity.				Value.				Per cent of increase, 1904-1914.	
	1914	1909	1904	1899	1914	1909	1904	1899	Square yards.	Value.
Carpets and rugs.	<i>Square yards.</i>	<i>Square yards.</i>	<i>Square yards.</i>	<i>Square yards.</i>						
Massachusetts.....	66,340,274	81,218,881	82,670,843	76,410,050	\$64,683,322	\$66,966,338	\$56,861,775	\$43,579,682	-19.8	13.8
New York.....	9,479,715	10,236,887	8,434,467	7,324,771	10,482,775	12,160,257	9,260,089	6,664,253	12.4	13.2
Pennsylvania.....	24,480,532	26,973,631	22,559,873	21,804,155	25,774,662	25,477,756	19,194,104	14,825,420	8.5	34.3
All other states.....	24,103,422	36,222,080	45,763,852	43,049,490	19,472,933	21,570,318	23,650,927	19,180,686	-47.3	-17.7
	8,276,605	7,786,283	5,912,651	4,231,634	8,952,952	7,758,007	4,756,655	2,909,323	40.0	88.2
Wool-felt hats.	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>						
Massachusetts.....	381,044	590,957	446,121	823,425	1,777,225	3,646,787	2,290,070	3,166,761	-14.6	-22.4
New York.....	68,927	133,678	136,481	284,494	378,277	1,185,298	956,347	1,218,498	-49.5	-60.4
Pennsylvania.....	184,620	303,398	158,585	279,768	765,208	1,431,342	647,064	1,003,565	16.4	18.3
All other states.....	127,497	153,881	151,055	259,163	633,740	1,030,147	686,659	944,698	-15.6	-7.7
Yarns for sale.	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>	<i>Pounds.</i>						
Connecticut.....	134,729,609	136,780,805	122,390,693	100,113,009	86,705,240	95,274,599	61,162,562	44,371,746	10.0	41.8
Maine.....	530,679	879,928	413,581	801,629	309,997	723,666	292,612	616,796	28.3	5.9
Massachusetts.....	1,232,570	1,477,360	639,615	656,237	889,036	1,211,143	489,102	644,174	92.7	81.8
New Jersey.....	29,991,727	28,774,178	19,015,889	12,357,944	20,753,500	23,231,053	12,193,214	6,895,656	57.7	70.2
New York.....	12,928,295	11,346,062	6,094,987	4,835,670	11,309,733	11,642,086	4,807,660	3,675,932	112.1	135.2
Pennsylvania.....	1,901,221	1,241,041	1,301,162	2,248,463	1,503,654	1,187,300	944,754	1,037,804	46.1	59.2
Rhode Island.....	58,820,785	68,003,533	68,903,501	63,137,243	23,631,456	34,548,848	26,071,590	21,090,913	-14.6	9.8
All other states.....	22,960,291	19,530,045	16,903,608	11,229,866	20,005,173	19,259,262	12,545,725	8,186,145	35.8	59.5
	6,364,041	5,528,658	9,118,350	4,845,957	3,302,701	3,471,241	3,817,905	2,224,326	-30.2	-13.5
Woolen.										
Massachusetts.....	26,830,047	29,215,188	43,734,323	33,812,065	9,008,978	7,635,864	10,283,017	7,075,883	-38.7	-12.4
New York.....	28,499	16,779	95,531	30,100	18,527	12,181	64,146	19,742	-70.2	-71.1
Pennsylvania.....	1,936,411	1,161,773	1,553,033	1,422,332	662,383	455,448	799,941	577,601	24.7	-17.2
Rhode Island.....	158,740	3,949	(?)	536,575	79,608	2,779	(?)	90,937	(?)	(?)
All other states.....	21,784,704	25,664,665	37,657,138	29,878,514	6,924,691	6,021,540	7,280,744	5,418,935	-42.1	-4.9
	763,946	661,234	1,339,608	579,528	391,831	368,165	844,691	258,419	-43.0	-53.6
	2,157,747	1,706,788	3,089,013	1,365,016	931,938	775,751	1,293,495	710,249	-30.1	-28.0
Worsted.										
Massachusetts.....	86,998,805	89,198,713	62,942,798	45,780,272	70,218,727	80,820,775	44,490,176	31,171,461	38.2	57.8
New York.....	1,197,827	1,353,845	366,715	358,500	865,945	1,156,075	284,190	304,629	226.6	204.7
Pennsylvania.....	24,103,998	24,517,859	15,850,648	9,414,290	17,626,009	21,069,894	10,310,734	5,225,412	52.1	70.9
Rhode Island.....	12,718,906	11,204,625	5,776,075	4,756,415	11,189,911	11,565,331	4,656,244	3,636,305	120.2	140.3
All other states.....	1,742,871	1,237,092	1,301,162	1,361,888	1,424,046	1,184,521	944,754	841,867	33.9	50.7
	24,176,877	28,896,142	25,416,328	18,582,744	18,664,351	24,098,942	17,431,468	12,594,321	-4.9	7.1
	20,224,819	18,264,920	13,222,913	8,789,306	18,292,764	18,634,773	10,551,023	6,789,859	53.0	73.4
	2,833,897	3,724,230	1,008,957	2,517,129	2,155,701	3,111,239	311,763	1,779,068	180.9	591.5
Merino.										
Massachusetts.....	10,522,363	14,011,362	12,914,512	15,984,567	4,862,564	5,666,228	5,226,574	4,673,012	-18.5	-7.0
New York.....	1,958,912	1,283,261	743,771	1,075,706	1,511,984	1,043,693	498,056	789,744	163.4	203.6
Pennsylvania.....	5,343,128	11,710,956	5,830,035	12,304,674	1,815,586	4,180,974	1,359,378	2,696,355	-8.4	33.6
Rhode Island.....	1,604,059	534,654	2,341,087	1,509,544	1,055,346	225,317	1,150,011	838,820	-31.5	-8.2
All other states.....	1,616,264	482,491	3,999,619	1,094,643	479,648	216,244	2,219,129	348,093	-59.6	-78.4
All other.										
Massachusetts.....	10,378,394	4,355,542	2,799,060	4,536,105	2,614,971	1,151,732	1,162,795	1,451,390	270.8	124.9
New York.....	6,244	95,219	177,369	260,000	4,564	32,641	140,766	316,800	-96.5	-96.8
Pennsylvania.....	1,992,406	1,811,285	868,437	445,616	953,124	662,018	584,483	302,899	129.4	63.1
Rhode Island.....	79,342	(?)	(?)	8,000	69,331	(?)	(?)	1,600	(?)	(?)
All other states.....	20,013	318,912	318,912	2,371,311	13,236	247,392	151,416	381,302	-93.7	-91.3
	7,516,076	1,731,770	(?)	2,371,311	1,226,818	(?)	(?)	(?)	(?)	(?)
	367,467	69,237	(?)	351,888	265,232	31,007	(?)	299,047	(?)	(?)
	396,846	648,031	1,434,342	1,099,290	82,666	178,674	286,130	149,742	-72.3	-71.1
Noils.										
Massachusetts.....	24,449,227	27,938,313	16,238,144	12,851,031	6,930,475	9,035,419	5,022,907	3,474,318	50.6	38.0
New York.....	10,955,313	11,250,153	5,244,593	4,880,617	3,133,490	3,655,975	1,517,014	1,282,138	108.9	106.6
Pennsylvania.....	2,216,080	1,628,352	940,338	868,109	668,074	588,740	326,732	256,043	135.7	104.5
Rhode Island.....	2,188,370	1,897,069	858,972	777,592	600,196	548,973	261,055	209,616	154.8	129.9
All other states.....	3,840,996	6,006,239	3,994,229	3,248,586	1,102,157	1,895,601	1,206,447	842,742	-3.8	-8.6
	3,283,790	5,199,661	3,319,117	2,099,777	940,435	1,819,094	1,240,806	651,720	-1.1	-24.2
	1,964,678	1,956,839	1,880,595	976,350	486,123	527,036	470,853	232,059	4.5	3.2
Waste.										
Massachusetts.....	29,571,562	25,948,432	22,378,230	9,024,327	3,482,305	3,607,146	2,652,667	1,291,187	32.1	31.3
New York.....	10,997,975	8,013,437	5,762,271	1,904,122	981,282	766,530	818,838	271,306	90.9	19.8
Pennsylvania.....	4,066,348	2,111,639	1,161,229	743,392	629,869	528,799	327,740	213,383	250.2	92.2
Rhode Island.....	2,451,510	888,887	852,243	397,119	297,768	155,921	128,750	45,761	187.7	131.3
All other states.....	3,683,664	5,260,513	4,759,554	939,352	430,303	592,524	329,565	121,291	-22.6	30.6
	5,177,162	7,106,426	5,837,000	3,328,074	902,003	1,316,779	831,452	411,016	-11.3	8.5
	3,194,903	2,567,530	4,005,933	1,712,268	241,080	246,593	216,322	228,430	-20.0	11.4
All other products.										
Connecticut.....	28,032,600	28,678,897	16,934,849	15,855,970	16,934,849	15,855,970	16,934,849	15,855,970	.....	41.6
Massachusetts.....	888,086	1,111,983	465,452	456,985	888,086	1,111,983	465,452	456,985	.....	90.8
New York.....	1,698,011	1,582,033	591,096	552,046	1,698,011	1,582,033	591,096	552,046	.....	187.3
Pennsylvania.....	6,842,883	5,506,630	4,126,871	2,383,912	6,842,883	5,506,630	4,126,871	2,383,912	.....	65.8
Rhode Island.....	212,693	495,997	(?)	120,565	212,693	495,997	(?)	120,565	(?)	(?)
All other states.....	763,340	910,144	633,931	2,155,779	763,340	910,144	633,931	2,155,779	.....	20.4
	5,647,734	5,215,566	2,586,441	1,991,519	5,647,734	5,215,566	2,586,441	1,991,519	.....	118.4
	7,638,749	6,192,317	3,923,273	4,565,516	7,638,749	6,192,317	3,923,273	4,565,516	.....	94.7
	766,923	5,128,384	1,622,880	1,127,026	766,923	5,128,384	1,622,880	1,127,026	.....	-52.7
	3,574,181	2,535,843	2,984,905	2,502,622	3,574,181	2,535,843	2,984,905	2,502,622	.....	19.7
Contract work.										
Connecticut.....	3,493,383	3,226,910	1,188,933	1,613,054	3,493,383	3,226,910	1,188,933	1,613,054	.....	193.8
Massachusetts.....	68,179	32,848	19,185	13,470	68,179	32,848	19,185	13,470	.....	255.4
New York.....	87,265	78,722	129,753	.....	87,265	78,722	129,753	.....	.....	-32.7
Pennsylvania.....	1,419,930	1,452,318	482,826	891,703	1,419,930	1,452,318	482,826	891,703	.....	194.4
Rhode Island.....	69,309	48,831	(?)	1,060	69,309	48,831	(?)	1,060	(?)	(?)
All other states.....	22,096	2,850	2,473	46,861	22,096	2,850	2,473	46,861	.....	793.5
	268,879	257,212	29,410	2,250	268,879	257,212	29,410	2,250	.....	814.2
	623,235	800,935	366,858	485,275	623,235	800,935	366,858	485,275	.....	69.9
	678,674	366,622	138,822	149,626	678,674	366,622	138,822	149,626	.....	388.9
	255,816	186,572	20,106	22,809	255,816	186,572	20,106	22,809	.....	1,172.3

1 A minus sign (-) denotes decrease.

2 Figures not available; included in "all other states."

3 Woolen industry only; figures for worsted industry included in "all other states."

4 Figures for Massachusetts, New York, Pennsylvania, and Rhode Island include tops that total 4,773,600 pounds, with combined value of \$2,855,607.

5 Includes tops.

Total production of yarns and recovered wool fiber in wool manufactures.—The total production of yarns and of recovered wool fiber in the five wool-manufacturing industries combined is given in Table 40 for 1914 and

1909, the figures covering stock made for use in further processes of manufacture in the same mill, as well as that made for sale.

Table 40

PRODUCT.	Census year.	TOTAL PRODUCTION OF YARNS AND RECOVERED WOOL FIBER IN WOOL MANUFACTURES (POUNDS).						
		Total.	For sale.	For use in the same establishment.				
				Total.	Made in woolen mills.	Made in worsted mills.	Made in felt mills.	Made in carpet mills.
Yarns.....	1914	441,796,406	134,729,609	307,066,797	164,372,992	87,174,581	7,581,177	47,933,047
	1909	403,021,373	136,780,805	266,240,568	116,623,156	90,742,195	4,574,267	54,300,950
Woolen.....	1914	197,914,350	26,830,047	171,084,303	118,309,523	10,400,722	6,758,237	35,615,821
	1909	162,447,494	29,215,188	133,232,306	80,761,458	10,743,304	4,543,267	37,184,277
Worsted.....	1914	182,712,432	¹ 95,843,039	86,869,393	1,271,374	74,629,697	714,531	10,253,791
	1909	183,717,291	² 90,068,680	93,648,611	3,097,658	76,457,382	.....	14,093,571
Merino.....	1914	49,975,722	10,522,363	39,453,359	39,206,840	154,360	92,159	.....
	1909	45,330,262	14,011,362	31,318,900	30,124,141	1,163,759	31,000	.....
Cotton.....	1914	11,193,902	1,534,160	9,659,742	5,585,255	1,989,802	16,250	2,068,435
	1909	11,526,326	3,485,575	8,040,751	2,639,899	2,377,750	.....	3,023,102
Recovered wool fiber.....	1914	41,258,722	471,373	40,787,349	39,616,226	464,029	707,094	.....
	1909	33,698,410	752,777	32,945,633	31,021,323	1,045,310	875,000	4,000

¹ Includes 8,844,234 pounds of mohair yarn.

² Includes 869,967 pounds of mohair yarn.

Imports compared with domestic manufactures.—Table 41 shows the statistics of domestic production as compared with the imports for the year ending December 31, 1914. The totals for imports were compiled from the quarterly statements of imported merchandise entered for consumption as prepared by the Bureau of Foreign and Domestic Commerce. These figures include with the "declared value" the amount of duty paid.

Table 41

PRODUCT.	WOOL MANUFACTURES: 1914.	
	Domestic production.	Imports for consumption.
Total value.....	¹ \$464,249,813	² \$55,106,733
Cloths, wool, value.....	\$249,693,090	\$21,745,589
Cloths, mohair, value.....		\$2,378,722
Dress goods, value.....		\$13,635,955
Flannels, value.....		\$329,169
Blankets, value.....	\$9,701,427	\$127,619
Upholstery goods (plushes, braids, haircloth, etc.), value.....	\$3,076,813	\$1,164,355
Felts, including press cloth, value.....	\$13,372,340	\$285,810
Carpets and rugs:		
Square yards.....	66,340,274	1,374,248
Value.....	\$64,683,322	\$6,502,150
Brussels carpets—		
Square yards.....	2,694,646	21,711
Value.....	\$3,986,596	\$28,921
Wilton and similar carpets—		
Square yards.....	5,475,412	112,840
Value.....	\$11,562,227	\$287,400
Tapestry Brussels carpets—		
Square yards.....	5,340,681	139,373
Value.....	\$3,583,173	\$100,754
Tapestry velvet carpets—		
Square yards.....	7,769,723	62,124
Value.....	\$7,251,288	\$167,356
Other carpets—		
Square yards.....	16,885,411	113,727
Value.....	\$14,749,214	\$216,127
Rugs, woven whole—		
Square yards.....	28,174,401	924,473
Value.....	\$23,550,824	\$5,701,592
Wool-felt hats, value.....	\$1,777,225	\$67,238
Yarns:		
Wool (woolen, worsted, and merino), including roving—		
Pounds.....	124,351,215	4,761,462
Value.....	\$84,090,269	\$3,946,838
Mohair and similar yarns—		
Pounds.....	8,844,234	909,610
Value.....	\$2,279,162	\$682,626
Tops of wool, camel's hair, mohair, etc.:—		
Pounds.....	8,985,170	6,179,780
Value.....	\$4,926,929	\$3,182,224

Table 41—Continued.

PRODUCT.	WOOL MANUFACTURES: 1914.	
	Domestic production.	Imports for consumption.
Waste and noils (including flecks):		
Pounds.....	54,020,789	2,746,172
Value.....	\$10,412,780	\$594,124
Recovered wool fiber (shoddy):		
Pounds.....	.....	260,225
Value.....	.....	\$38,799
Rags:		
Pounds.....	.....	4,388,449
Value.....	.....	\$398,233
All other products, value.....	\$15,451,397	\$27,172

¹ This does not include the production of wool manufactures in other industries, which was valued at \$1,622,143.

² Includes duty to the amount of \$13,410,498.

Summary of equipment for wool manufactures.—Table 42 shows the number of sets of woolen cards and the number of combing machines, pickers, garnet machines, spindles, and looms used in wool manufactures, as reported at the censuses of 1914, 1909, 1904, and 1899.

Table 42

	EQUIPMENT USED IN WOOL MANUFACTURES (EXCLUSIVE OF CARPET AND RUG LOOMS).							
	Number.				Per cent of increase. ¹		1904-1914	1909-1914
	1914	1909	1904	1899	1914	1909		
Woolen cards (sets) ²	5,382	5,555	6,142	6,605	-12.4	-3.1		
Combing machines.....	2,425	2,120	1,549	1,451	56.6	14.4		
Spindles.....	5,006,286	4,570,089	4,021,093	3,511,099	24.5	9.5		
Looms.....	76,789	73,268	66,293	63,294	15.8	4.8		
Pickers.....	1,392	1,565	1,812	(^a)	-23.2	-11.1		
Garnett machines.....	221	251	245	(^a)	-9.8	-12.0		

¹ A minus sign (—) denotes decrease.

² Includes shoddy cards.

^a Not reported.

The number of sets of woolen cards decreased steadily between 1899 and 1914. This decrease resulted in part from the relative decline in the carded-wool industry, due to the steadily increasing popu-

larity of worsted cloths, referred to in the discussion of Table 31, and does not indicate a decline in wool manufacture in general, but merely a change from one class of fabrics to another. The decrease in woolen cards is also the result of the disappearance of the little local carding mills making wool rolls for home use. The growth of the worsted-goods industry is indicated by the increase in the number of combing machines.

Sets of cards.—Table 43 gives, for the United States and for each of the leading states, the number of sets of woolen cards used in 1914, 1909, 1904, and 1899.

With the woolen cards, as given in the table, are included the shoddy cards which were in operation in the various mills manufacturing woolen, worsted, and felt goods, carpets and rugs, and wool hats. The number of sets of woolen cards, including such shoddy cards, decreased continuously during the period shown in the table. It must be remembered, however, that the card is not an absolutely accurate standard, because of variations in the width of the cards, the diameter of the cylinders, and the speed at which they operated, although it is generally received as the most acceptable measure of production in the woolen mill.

Table 43

STATE.	SETS OF WOOLEN CARDS USED IN WOOL MANUFACTURES. ¹			
	1914	1909	1904	1899
United States.....	5,382	5,555	6,142	6,605
California.....	21	12	36	30
Connecticut.....	425	462	490	459
Delaware.....	5	5	5	13
Georgia.....	30	35	33	31
Illinois.....	55	39	46	46
Indiana.....	55	62	84	92
Iowa.....	17	25	28	26
Kentucky.....	43	47	83	58
Maine.....	489	441	456	437
Maryland.....	27	27	48	47
Massachusetts.....	1,465	1,483	1,667	1,594
Michigan.....	40	62	62	52
Minnesota.....	50	36	34	38
Missouri.....	3	10	14	36
New Hampshire.....	385	357	393	335
New Jersey.....	180	139	184	207
New York.....	631	606	632	748
North Carolina.....	21	34	25	25
Ohio.....	54	54	69	78
Oregon.....	36	31	29	35
Pennsylvania.....	821	912	932	1,262
Rhode Island.....	205	305	360	478
South Carolina.....	6	6		
Tennessee.....	62	82	82	99
Utah.....	10	1	12	17
Vermont.....	135	124	127	124
Virginia.....	27	35	50	52
Washington.....	9		2	
West Virginia.....	20	27	21	53
Wisconsin.....	55	84	81	72
All other states.....		12	57	61

¹ Includes shoddy cards.

Table 44 shows, by states, for 1914, the distribution of woolen cards according to width.

Table 44

STATE.	SETS OF WOOLEN CARDS USED IN WOOL MANUFACTURES. ¹																				Not stated.
	Total.	20-inch.	24-inch.	26-inch.	27-inch.	30-inch.	36-inch.	40-inch.	42-inch.	44-inch.	48-inch.	50-inch.	56-inch.	60-inch.	63-inch.	66-inch.	68-inch.	72-inch.	76-inch.	80-inch.	
United States.....	5,382	2	59	19	8	14	11	716	20	84	2,366	1	1	1,270	4	3	7	9	2	15	742
California.....	21							1			5			8						2	
Connecticut.....	425							62			246			39			7			3	71
Delaware.....	5										2			3							
Georgia.....	30										5			25							
Illinois.....	55							14			11			4							26
Indiana.....	55							10			43			2							
Iowa.....	17							6			11										
Kentucky.....	43					3		3			3			32			2				
Maine.....	489					1	3	83		6	265			68	4						59
Maryland.....	27													19					8		
Massachusetts.....	1,465							189	7	53	783			181		3		3	2	8	233
Michigan.....	40							2			38									3	
Minnesota.....	50		4			3	1	18			13			7							4
Missouri.....	3							1			2										
New Hampshire.....	385		1					150		23	198			12							1
New Jersey.....	180										64			25						1	90
New York.....	631	2	2	19			1	123			217			121				2		4	129
North Carolina.....	21										4			17						5	
Ohio.....	54					1					20			31							2
Oregon.....	36							4			26			6							
Pennsylvania.....	821		48		8		1	5	1	1	148	1	1	508			2				97
Rhode Island.....	205							5	11		132			50							7
South Carolina.....	6										6										
Tennessee.....	62		4			2					13			39							4
Utah.....	10										10										
Vermont.....	135							22			60			41							12
Virginia.....	27					3		1			6			16							1
Washington.....	9							2			7										
West Virginia.....	20						3	4	1		5			7							
Wisconsin.....	55					1	2	11		1	23			9							8

¹ Includes shoddy cards.

Combing machines.—Table 45 shows the distribution of the wool-combing machines, by states, for 1914, 1909, 1904, and 1899.

Massachusetts at each census reported more combing machines than any other state, and shows the greatest absolute increase during the period 1899–

1914. Pennsylvania ranked second in 1904 and 1899 in the number of combing machines reported, but was outranked by Rhode Island in 1909, and by both Rhode Island and New Jersey in 1914. New Jersey shows the greatest relative increase for the 15 years, 172.7 per cent.

Table 45

STATE.	COMBING MACHINES USED IN WOOL MANUFACTURES.							
	Number.				Per cent distribution.			
	1914	1909	1904	1899	1914	1909	1904	1899
United States.....	2,425	2,120	1,549	1,451	100.0	100.0	100.0	100.0
Connecticut.....	29	52	37	57	1.2	2.5	2.4	3.9
Maine.....	32	29	26	19	1.3	1.4	1.7	1.3
Massachusetts.....	918	703	497	424	37.9	33.2	32.1	29.2
New Hampshire.....	52	52	24	34	2.1	2.5	1.5	2.3
New Jersey.....	349	268	169	128	14.4	12.6	10.9	8.8
New York.....	143	141	74	116	5.9	6.7	4.8	8.0
Pennsylvania.....	320	354	377	357	13.2	16.7	24.3	24.6
Rhode Island.....	522	461	291	287	21.5	21.7	18.8	19.8
Wisconsin.....	11	13	8	(¹)	0.5	0.6	0.5	—
All other states.....	49	47	46	29	2.0	2.2	3.0	2.0

¹ Included in "all other states."

Table 46 shows the number of combing machines of domestic manufacture and of foreign manufacture, respectively, for the three wool-manufacturing industries in which these machines are used. The proportion of combing machines of American manufacture has remained practically the same since 1899.

Table 46

CLASS.	COMBING MACHINES USED IN WOOL MANUFACTURES.			
	1914	1909	1904	1899
Total.....	2,425	2,120	1,549	1,451
Of domestic manufacture.....	566	480	386	337
Per cent of total.....	23.3	22.6	24.9	23.2
Of foreign manufacture.....	1,859	1,640	1,163	1,114
Per cent of total.....	76.7	77.4	75.1	76.8
In worsted mills.....	2,285	1,925	1,312	1,181
Of domestic manufacture.....	477	370	259	214
Of foreign manufacture.....	1,808	1,555	1,053	967
In woolen mills.....	20	63	128	123
Of domestic manufacture.....	8	42	81	77
Of foreign manufacture.....	12	21	47	46
In carpet mills.....	120	132	109	134
Of domestic manufacture.....	81	63	46	46
Of foreign manufacture.....	39	64	63	88

¹ Includes a few combs in one felt-goods mill.

Spindles.—Table 47 gives the number of spindles used in wool manufactures as reported for 1914, 1909, 1904, and 1899, with separate figures for producing spindles (mule and frame) and doubling and twisting spindles employed, respectively, upon woolen, worsted, and cotton yarns.

Table 47

CLASS.	SPINDLES USED IN WOOL MANUFACTURES.										
	United States.	Connecticut.	Maine.	Massachusetts.	New Hampshire.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	Wisconsin.	All other states.
All classes:											
1914.....	5,006,286	202,793	267,923	1,760,432	217,180	346,720	341,194	746,593	693,201	28,838	401,412
1909.....	4,570,089	215,218	235,960	1,431,236	193,704	282,310	320,937	814,881	632,537	36,991	406,315
1904.....	4,021,098	207,481	210,992	1,118,549	234,974	220,486	334,672	758,427	489,340	37,398	408,779
1899.....	3,511,099	219,332	178,215	952,854	125,532	176,340	274,009	641,657	527,099	25,904	390,157
Producing spindles:											
1914.....	4,129,373	179,703	243,716	1,441,774	201,180	284,262	283,789	602,276	504,213	25,396	363,064
1909.....	3,794,129	193,456	214,584	1,174,547	177,860	234,618	269,749	667,596	459,127	32,734	369,838
1904.....	3,457,211	187,981	189,684	960,337	222,054	184,533	281,937	630,534	379,374	32,558	388,219
1899.....	3,063,886	194,896	162,921	839,286	119,204	149,564	224,937	556,409	419,844	23,672	373,183
Woolen—											
1914.....	1,825,469	155,867	185,500	480,810	131,408	50,424	119,053	289,792	94,099	21,188	297,328
1909.....	1,911,966	168,536	161,568	502,678	115,600	53,106	138,679	318,166	124,729	25,974	302,350
1904.....	2,169,416	167,021	169,560	554,086	178,630	71,500	153,343	346,294	151,860	28,438	348,684
1899.....	1,935,527	157,458	145,853	486,784	113,604	64,910	124,175	345,116	144,078	22,760	330,789
Worsted—											
1914.....	2,225,154	23,836	53,780	901,492	69,772	233,838	157,704	310,984	408,796	4,208	60,744
1909.....	1,750,446	24,920	48,920	573,056	61,924	181,512	123,718	346,630	333,246	6,760	49,765
1904.....	1,189,605	20,960	17,060	349,377	43,424	113,033	121,554	278,440	227,514	4,120	14,123
1899.....	980,835	27,438	13,484	299,298	5,600	84,654	96,538	197,833	224,646	912	30,432
Cotton—											
1914.....	78,750	—	4,436	59,472	—	—	7,032	1,500	1,318	—	4,992
1909.....	131,717	—	4,096	98,813	336	—	7,352	2,800	1,152	—	17,168
1904.....	98,190	—	3,064	56,874	—	—	7,040	5,800	—	—	25,412
1899.....	147,524	10,000	3,584	53,204	—	—	4,224	13,460	51,120	—	11,932
Mule spindles—											
1914.....	2,485,790	161,064	185,236	713,904	140,868	175,604	172,193	383,620	237,793	20,324	295,134
1909.....	2,312,950	174,536	161,304	561,478	125,576	154,206	155,694	432,496	218,224	26,854	302,582
1904.....	2,494,935	166,721	160,908	624,780	180,010	126,300	177,603	457,140	215,920	28,058	357,495
Woolen—											
1914.....	1,815,698	155,564	185,236	477,994	131,408	50,424	118,753	236,712	94,099	20,324	295,134
1909.....	1,886,101	168,536	161,304	489,934	115,600	53,106	128,439	316,962	124,104	25,534	302,582
1904.....	2,140,753	166,721	159,408	548,934	176,370	65,500	153,343	344,864	151,860	28,058	345,695
Worsted—											
1914.....	669,926	5,500	—	235,910	9,460	125,180	53,440	96,908	143,528	—	—
1909.....	423,393	6,000	—	71,544	9,640	101,100	26,935	112,734	94,120	1,320	—
1904.....	313,862	—	1,500	53,146	3,640	60,800	23,940	106,476	64,060	—	300
Cotton—											
1914.....	166	—	—	—	—	—	—	—	166	—	—
1909.....	3,456	—	—	—	336	—	320	2,800	—	—	—
1904.....	40,320	—	—	22,700	—	—	320	5,800	—	—	11,500
Frame spindles—											
1914.....	1,643,583	18,639	58,480	727,870	60,312	108,658	111,596	218,656	266,420	5,072	67,830
1909.....	1,481,179	18,920	53,280	613,069	52,284	80,412	114,055	235,100	240,903	5,880	67,276
1904.....	962,276	21,260	28,776	335,557	42,044	58,233	104,334	173,394	163,454	4,500	30,724
Woolen—											
1914.....	9,771	303	264	2,816	—	—	300	3,080	—	864	2,144
1909.....	25,865	—	264	12,744	—	—	10,240	1,204	625	—	348
1904.....	28,663	300	10,152	5,152	2,260	6,000	—	1,430	—	380	2,989
Worsted—											
1914.....	1,555,228	18,336	53,780	665,582	60,312	108,658	104,264	214,076	265,268	4,208	60,744
1909.....	1,327,053	18,920	48,920	501,512	52,284	80,412	96,783	233,896	239,126	5,440	49,760
1904.....	875,743	20,960	15,560	296,231	39,784	52,233	97,614	171,964	163,454	4,120	13,223
Cotton—											
1914.....	78,534	—	4,436	59,472	—	—	7,032	1,500	1,152	—	4,992
1909.....	128,261	—	4,096	98,813	—	—	7,032	—	1,152	—	17,168
1904.....	57,870	—	3,064	34,174	—	—	6,720	—	—	—	13,912
Doubling and twisting spindles:											
1914.....	876,913	23,090	24,207	318,658	16,000	62,458	57,405	144,317	188,988	3,442	38,348
1909.....	775,960	21,762	21,376	255,689	15,844	47,692	51,188	147,285	173,410	4,257	36,457
1904.....	563,887	19,500	21,308	153,212	12,920	35,953	52,735	127,893	109,966	4,840	20,530
1899.....	447,213	24,436	15,294	113,568	6,328	26,776	49,072	85,248	107,255	2,232	17,004

(See footnotes at end of table.)

Table 47—Continued.

Table 47—Continued.	SPINDLES USED IN WOOL MANUFACTURES.											
	CLASS.	United States.	Connecticut.	Maine.	Massachusetts.	New Hampshire.	New Jersey.	New York.	Pennsylvania.	Rhode Island.	Wisconsin.	All other states.
Doubling and twisting spindles—Contd.												
Woolen—												
1914.....	89,222	14,646	6,807	15,320	2,476	.....	3,637	18,294	12,076	1,722	14,244	
1909.....	110,488	13,550	6,684	21,033	2,836	300	6,665	24,872	15,040	2,041	14,467	
1904.....	110,626	12,420	16,530	20,076	4,400	2,420	7,917	16,317	13,874	2,374	14,298	
1899.....	95,501	^a 9,290	^a 7,206	19,182	3,320	1,056	10,478	14,886	^a 15,121	^a 1,878	13,084	
Worsted—												
1914.....	784,991	8,444	17,400	302,438	13,524	62,458	53,768	126,023	176,912	1,720	22,304	
1909.....	648,050	8,212	14,692	223,136	13,008	47,392	41,343	121,591	156,870	2,216	19,590	
1904.....	441,038	7,080	4,778	131,305	8,520	33,533	41,906	110,196	96,092	2,466	5,162	
1899.....	344,420	15,146	8,088	93,750	^a 3,008	25,720	36,998	69,458	87,978	^a 354	3,920	
Cotton—												
1914.....	2,700	.....	.....	900	.....	.....	.....	.....	.....	.....	1,800	
1909.....	17,422	.....	.....	9,520	.....	3,180	.....	822	1,500	.....	2,400	
1904.....	12,223	.....	.....	6,831	.....	2,912	.....	1,380	.....	.....	1,100	
1899.....	7,292	.....	.....	636	.....	1,596	.....	904	4,156	.....	.....	

¹ In addition, there were 3,406 spindles, not classified, included under "all other states."

² In addition, there were 20,760 spindles, not classified, included under "all other states."

³ A few spindles in felt mills for which separate figures are not available are included in the figures for "all other states."

⁴ Worsted spindles in worsted mills for which separate figures are not available are included in the figures for "all other states."

As a standard of capacity the spindle is not satisfactory, as the output of a spindle varies with the kind and size of yarn spun. The number of spindles, however, serves, like the set of cards and the comb, as a rough measure of the growth of the industry.

The total number of spindles of all kinds shows an increase from 1899 to 1914 of 1,495,187, or 42.6 per cent. The percentage of increase in producing spindles was somewhat lower. The increase was entirely in worsted spindles, as there was a decline during the period in the number of woolen and cotton producing spindles, as well as of woolen and cotton doubling and twisting spindles.

The number of mule spindles declined between the censuses of 1904 and 1909, but increased from 1909 to 1914, so that the number reported in 1914 was almost as great as that reported 10 years before; the number of frame spindles increased 70.8 per cent during the decade and was almost two-thirds as great as that of mule spindles in 1914.

The number of doubling and twisting spindles increased nearly 100 per cent from 1899 to 1914. Since a larger number of doubling and twisting spindles implies a greater use of 2-ply yarns and a higher grade of manufacture, the ratio of doubling and twisting spindles to producing spindles is of interest. For woolen spindles the ratio was 1 to 20.5 in 1914 as compared with 1 to 17.3 in 1909; 1 to 19.6 in 1904; and 1 to 20.3 in 1899. In the case of worsted spindles the ratio was 1 to 2.8 in 1914; 1 to 2.7 in 1909 and 1904; and 1 to 2.8 in 1899.

Looms.—Table 48 gives for the United States and for nine leading states the total number of looms exclusive of carpet and rug looms, for which figures are shown in Tables 50 and 51) in operation in the wool-manufacturing industries in 1914, 1909, 1904, and 1899, with separate figures for broad and narrow looms and hand looms.

The total number of looms in these industries increased from 1899 to 1914 by 13,495, or 21.3 per cent. The broad looms (that is, those with 50 inches or more of reed space) increased in number 18,208, or 46.6 per

cent, while in the number of narrow looms there was a decrease of 4,696, or 19.5 per cent. Of the states listed in the table, New Jersey shows the highest rate of increase in the total number of looms (114.2 per cent).

Table 48

STATE.	LOOMS USED IN WOOL MANUFACTURES (EXCLUSIVE OF CARPET AND RUG LOOMS).			
	Total.	Broad. ¹	Narrow. ²	Hand.
United States:				
1914.....	³ 76,789	57,282	19,444	63
1909.....	³ 73,268	54,221	19,006	41
1904.....	66,293	46,893	19,334	66
1899.....	63,294	39,074	24,140	80
Connecticut:				
1914.....	3,240	2,947	293	.....
1909.....	3,409	3,145	264	.....
1904.....	3,201	2,581	619	1
1899.....	3,108	2,595	512	1
Maine:				
1914.....	4,533	3,447	1,086	.....
1909.....	4,024	2,967	1,057	.....
1904.....	3,689	2,993	696	.....
1899.....	⁴ 2,646	2,516	130	.....
Massachusetts:				
1914.....	27,609	18,514	9,087	8
1909.....	25,185	16,572	8,612	1
1904.....	20,588	13,734	6,853	1
1899.....	18,523	10,818	7,705	.....
New Hampshire:				
1914.....	4,084	3,939	145	.....
1909.....	4,230	3,743	487	.....
1904.....	4,397	3,198	1,199	.....
1899.....	⁵ 2,071	1,738	333	.....
New Jersey:				
1914.....	5,709	5,620	87	2
1909.....	4,991	4,887	102	2
1904.....	3,799	3,519	280	.....
1899.....	2,665	2,231	434	.....
New York:				
1914.....	3,182	2,617	523	42
1909.....	3,035	2,534	475	26
1904.....	4,156	2,388	1,717	51
1899.....	4,031	2,367	1,615	49
Pennsylvania:				
1914.....	11,389	7,363	4,017	9
1909.....	11,748	7,952	3,786	10
1904.....	10,752	7,225	3,516	11
1899.....	11,414	5,837	5,555	22
Rhode Island:				
1914.....	10,251	7,734	2,517	.....
1909.....	9,252	7,210	2,042	.....
1904.....	8,103	6,455	1,648	.....
1899.....	8,007	5,811	2,195	1
Wisconsin:				
1914.....	262	216	16	.....
1909.....	327	309	18	.....
1904.....	297	277	20	.....
1899.....	272	236	36	.....
All other states:				
1914.....	6,530	4,855	1,673	2
1909.....	7,067	4,902	2,163	2
1904.....	7,311	4,523	2,786	2
1899.....	10,557	4,925	5,625	7

¹ Fifty inches reed space or over.

² Under 50 inches reed space.

³ Includes cotton looms.

⁴ In addition, there were 156 looms, not classified, included in "all other states."

⁵ In addition, there were 3,241 looms, not classified, included in "all other states."

Table 49 gives, for 1914, 1909, 1904, and 1899, the number of looms employed on woolen goods and on worsted goods, respectively, classified as broad looms, narrow looms, and hand looms.

CLASS.	LOOMS USED IN WOOL MANUFACTURES (EXCLUSIVE OF CARPET AND RUG LOOMS).			
	1914	1909	1904	1899
Total.....	1 75,491	1 72,665	66,293	63,294
Broad looms: ²				
On woolen goods.....	21,788	25,031	27,171	22,364
On worsted goods.....	35,009	28,796	19,722	16,710
Narrow looms: ³				
On woolen goods.....	7,078	8,117	10,933	14,220
On worsted goods.....	11,572	10,680	8,401	9,920
Hand looms.....	44	41	66	80

¹ Not including cotton looms.

² Fifty inches reed space or over.

³ Under 50 inches reed space.

The number of narrow looms employed in weaving woolen goods decreased continuously between 1899 and 1914, while the number employed in weaving worsted goods increased. The number of broad looms employed on woolen goods decreased during the decade, the number in 1914 being less than in 1899 in spite of the increase from 1899 to 1904; the number of broad looms employed on worsted goods shows a continuous increase for the period, there being more than twice as many of these looms in 1914 as there were in 1899. Table 49 does not include 485 broad, 794 narrow, and 19 hand looms employed in 1914, and 394 broad and 209 narrow looms in 1909 in weaving cotton goods in establishments engaged primarily in producing wool manufactures. These looms are included in Table 48.

Carpet looms.—Table 50 gives the loom equipment of the carpet and rug mills for 1914, 1909, 1904, and 1899.

KIND OF LOOM.	NUMBER OF LOOMS USED IN THE CARPET AND RUG INDUSTRY.			
	1914	1909	1904	1899
Looms on carpets and rugs, total.....	9,852	11,943	11,692	¹ 10,754
Power looms.....	9,821	11,736	11,002	9,706
Hand looms.....	31	207	690	1,048
Ingrain:				
Power.....	1,251	2,884	4,189	4,354
Hand.....		26	82	92
Broad ingrain:				
Power.....	569	788	412	246
Hand.....		7	42	1
Venetian:				
Power.....		18	88	80
Hand.....		1	3	
Smyrna:				
Power.....	487	964	1,131	1,358
Hand.....	11	57	563	955
Colonial or rag:				
Power.....	123	186	(²)	(²)
Hand.....	20	116	(²)	(²)
Tapestry Brussels.....	1,281	2,680	2,490	1,834
Tapestry velvet.....	1,309			
Body Brussels.....	550	636	549	544
Wilton.....	1,521	1,018	710	529
Axminster.....	2,704	2,562	1,433	761
Moquette.....	26			

¹ In addition, 135 power looms and 7 hand looms were employed by establishments engaged primarily in the manufacture of woolen and worsted goods.

² Figures not available.

The proportion which hand looms formed of the total number decreased from 9.7 per cent in 1899 to

1.7 per cent in 1909 and to three-tenths of 1 per cent in 1914. In 1889 there were 10,898 looms, of which 2,598, or 23.8 per cent, were hand looms. There were less than one-third as many narrow ingrain looms in 1914 as in 1899, and, although there were reported more than twice as many broad ingrain looms in 1914 as there were 15 years before, this class also showed a decided decline from 1909 to 1914. Tapestry, Wilton, and Axminster and moquette looms, notably the last named, show decided gain in the fifteen-year period. In a general way the increases and decreases in the number of the different kinds of looms correspond to the increases and decreases in the number of yards of the different kind of carpet manufactured.

Table 51 gives the loom equipment of the carpet and rug mills, by states, for 1914.

KIND.	NUMBER OF LOOMS USED IN THE CARPET AND RUG INDUSTRY: 1914.						
	United States.	Con- necti- cut.	Indi- ana.	Massa- chu- setts.	New Jer- sey.	New York.	Penn- sylva- nia.
Looms on carpets and rugs, total.....	9,852	751	14	1,474	217	3,089	14,302
Power looms.....	9,821	751	14	1,474	215	3,088	14,272
Hand looms.....	31				2	1	30
Carpet looms.....	6,546	612	11	1,345	128	1,428	3,027
Ingrain.....	1,179	47	8	52		76	99
Broad ingrain.....	76		3				7
Tapestry Brussels.....	719	117		108		78	41
Tapestry velvet.....	927	49		62		227	58
Body Brussels.....	548	22		310	3	116	9
Wilton.....	1,387	105		449	91	176	56
Axminster.....	1,644	272		364	34	744	23
Smyrna—							
Power.....	18					6	1
Hand.....	1					1	
Colonial or rag—							
Power.....	41					4	3
Hand.....	6						
Rug looms.....	3,306	139	3	129	89	1,661	1,283
Ingrain.....	72						7
Broad ingrain.....	493			118		29	34
Tapestry Brussels.....	562	59				368	13
Tapestry velvet.....	382	16			46	265	5
Body Brussels.....	2			2			
Wilton.....	134			3		42	8
Axminster.....	1,060	64		6	35	752	20
Moquette.....	26					26	
Smyrna—							
Power.....	469				6	168	29
Hand.....	10				2		
Colonial or rag—							
Power.....	82		3			11	6
Hand.....	14						1

¹ In addition, there were in operation 447 woolen and cotton looms which are included in Table 49.

Pennsylvania ranked first in 1914 in the number of nearly every kind of loom, reporting 43.7 per cent of the looms used in the carpet and rug industry in the United States. New York ranked second, with 31.4 per cent of the total, and Massachusetts third, with 15 per cent. Pennsylvania reported 85.2 per cent of all looms used in the manufacture of ingrain carpets while New York ranked first in the number of Axminster carpet looms and of tapestry Brussels, tapestry velvet, and Axminster rug looms, and Massachusetts in the number of looms used on body Brussels carpets.

Table 52 gives, by states, the number of pickers and garnett machines used in the wool-manufacturing industries in 1914, 1909, and 1904.

Table 52															
STATE.	Cen- sus year.	WOOL MANU- FACTURES.		STATE.	Cen- sus year.	WOOL MANU- FACTURES.		STATE.	Cen- sus year.	WOOL MANU- FACTURES.		STATE.	Cen- sus year.	WOOL MANU- FACTURES.	
		Num- ber of pickers.	Num- ber of garnett ma- chines.			Num- ber of pickers.	Num- ber of garnett ma- chines.			Num- ber of pickers.	Num- ber of garnett ma- chines.			Num- ber of pickers.	Num- ber of garnett ma- chines.
United States...	1914	1,392	221	Massachusetts....	1914	352	37	New York.....	1914	112	25	Wisconsin.....	1914	24	5
	1909	1,565	251		1909	447	56		1909	112	32		1909	35	8
	1904	1,812	245		1904	427	43		1904	118	21		1904	32	6
Connecticut.....	1914	93	21	New Hampshire..	1914	111	12	Pennsylvania....	1914	232	53	All other states...	1914	243	36
	1909	106	22		1909	98	12		1909	258	44		1909	272	43
	1904	129	20		1904	127	17		1904	316	55		1904	361	39
Maine.....	1914	120	15	New Jersey.....	1914	50	2	Rhode Island....	1914	55	15				
	1909	105	18		1909	60	1		1909	72	15				
	1904	135	17		1904	73	3		1904	94	24				

DETAIL STATE TABLES.

The principal statistics secured by the census inquiry concerning the five branches of wool manufactures are presented, by states, in the following tables. Table 53 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners,

primary horsepower, wages, cost of materials, and value of products, as reported for all the industries combined. Table 54 presents, for 1914, by states, the more detailed statistics for wool manufactures as a whole and for each of the industries comprising it.

TABLE 53.—COMPARATIVE SUMMARY FOR WOOL MANUFACTURES, BY STATES, FOR 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of mate- rials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1914	979	195,285	442,330	\$93,358	\$298,063	\$464,250	New Jersey.....	² 1914	35	15,336	26,219	\$6,826	\$24,421	\$38,491
	1909	1,124	202,029	400,762	87,963	322,441	507,167		1909	42	13,536	21,224	5,339	21,931	35,884
	1904	1,213	179,976	322,914	70,798	242,561	380,934		1904	43	10,136	15,276	3,368	11,606	18,143
Connecticut.....	¹ 1914	53	7,350	18,194	3,731	10,764	17,129	New York.....	1914	65	21,092	39,020	9,842	28,682	47,174
	¹ 1909	56	7,789	17,518	3,485	12,838	19,363		1909	80	21,358	34,275	10,015	28,059	49,345
	² 1904	59	7,429	14,949	2,998	10,073	15,483		1904	79	20,019	31,889	8,087	21,848	38,881
Georgia.....	² 1914	3	524	1,680	181	355	598	North Carolina.....	1914	5	391	685	105	394	667
	1909	7	660	1,437	175	443	871		1909	11	424	968	116	392	675
	² 1904	8	647	1,181	129	424	656		1904	12	343	849	71	406	556
Illinois.....	³ 1914	9	341	1,163	167	461	783	Oregon.....	1914	7	648	1,670	373	943	1,702
	1909	9	499	1,342	237	773	1,314		1909	8	469	1,628	202	527	929
	² 1904	9	446	1,150	162	495	783		1904	7	566	955	220	496	1,034
Indiana.....	² 1914	10	719	1,519	318	991	1,522	Pennsylvania.....	1914	266	34,030	58,232	15,766	58,947	87,508
	² 1909	11	776	1,678	293	1,056	1,570		1909	310	38,919	63,478	16,116	69,282	102,326
	³ 1904	13	993	1,945	306	997	1,597		1904	334	37,967	51,553	14,621	53,953	83,055
Iowa.....	1914	5	93	812	43	286	319	Rhode Island.....	² 1914	80	22,745	50,206	11,368	41,735	60,889
	1909	8	134	922	54	228	350		1909	88	24,924	43,715	11,538	51,025	74,600
	1904	10	246	1,101	89	365	573		1904	82	21,610	35,981	9,102	35,936	52,641
Kentucky.....	1914	11	675	1,773	210	611	934	Tennessee.....	1914	17	1,069	2,302	289	923	1,547
	1909	14	818	2,506	241	858	1,278		1909	21	1,654	2,371	419	1,127	1,802
	1904	21	917	2,016	261	775	1,273		1904	27	1,415	2,590	327	945	1,706
Maine.....	³ 1914	57	7,998	23,839	4,072	10,823	17,531	Vermont.....	1914	17	2,226	8,841	1,167	2,989	4,635
	³ 1909	63	8,553	21,651	3,779	11,121	18,002		1909	17	2,294	7,213	1,043	2,879	4,497
	³ 1904	72	8,743	18,226	3,514	10,811	17,580		1904	17	2,235	7,120	923	2,794	4,698
Massachusetts.....	³ 1914	183	59,574	154,061	29,752	89,746	141,330	Virginia.....	² 1914	12	431	911	168	420	790
	⁴ 1909	189	59,149	126,477	27,022	94,797	153,477		1909	16	542	1,352	176	567	999
	³ 1904	200	49,229	96,771	20,325	69,481	109,028		1904	24	649	1,656	179	760	1,250
Michigan.....	1914	9	477	1,311	230	793	1,215	West Virginia.....	1914	8	276	672	118	417	679
	1909	15	554	1,900	235	863	1,571		1909	13	599	1,327	222	795	1,224
	1904	15	482	1,186	170	595	977		³ 1904	12	290	726	106	218	469
Minnesota.....	² 1914	16	448	1,266	229	850	1,298	All other states.....	1914	71	9,310	17,562	4,192	12,475	22,470
	1909	16	277	642	123	429	699		1909	91	8,615	16,653	3,484	11,356	19,660
	1904	16	343	941	129	463	791		1904	109	8,690	16,416	2,956	9,641	15,476
New Hampshire.....	1914	40	9,532	30,392	4,211	10,087	15,039								
	1909	39	9,486	30,485	3,649	11,095	16,731								
	1904	44	6,581	18,437	2,755	9,479	14,284								

¹ Excludes statistics for three establishments, to avoid disclosure of individual operations.² Excludes statistics for one establishment, to avoid disclosure of individual operations.³ Excludes statistics for two establishments, to avoid disclosure of individual operations.⁴ Excludes statistics for five establishments, to make figures comparable with those for 1904 and 1914.

TABLE 54.—DETAIL STATISTICS FOR WOOL

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Fe- male.	Average number.	Number, 15th day of—			Male.	Fe- male.	Male.		Fe- male.
								Maximum month.	Minimum month.						

WOOL MANUFACTURES.

1	United States.....	979	203,716	578	2,590	4,013	1,250	195,285	Ap 203,511	De 184,098	200,450	110,545	82,879	3,110	3,916	\$497,699,293
2	Connecticut ³	53	7,698	20	145	141	42	7,350	My 7,781	Ja 6,803	7,547	5,343	1,985	121	98	18,113,697
3	Georgia ⁴	3	542	.....	11	4	3	524	Ja 612	De 393	505	267	205	21	12	1,274,798
4	Illinois ⁵	9	398	6	22	13	16	341	Mh 367	Au 261	352	254	90	4	4	850,022
5	Indiana ⁴	10	767	7	23	11	7	719	Fe 818	Au 645	775	398	361	7	9	1,526,924
6	Iowa.....	5	99	5	1	.....	.....	93	My ⁶ 104	De 70	84	67	15	1	1	350,296
7	Kentucky.....	11	705	6	13	6	5	675	Au 697	Ja 640	699	269	426	2	2	1,533,507
8	Maine ⁵	57	8,287	13	145	88	43	7,998	De 8,432	Au 7,338	8,651	5,565	2,914	71	101	20,016,538
9	Maryland.....	3	365	.....	10	4	2	349	Ja 412	De 246	380	282	89	.....	9	570,394
10	Massachusetts ⁵	183	61,613	89	602	884	464	59,574	Ap 63,602	De 52,613	62,562	36,810	23,972	708	1,072	158,076,852
11	Michigan.....	9	509	6	10	11	5	477	De 520	Au 448	528	317	211	.....	.....	1,304,476
12	Minnesota ⁴	16	498	11	21	15	3	448	Mh 471	De 429	436	236	199	1	.....	1,634,262
13	New Hampshire.....	40	9,777	22	90	66	37	9,532	Fe 9,894	Se 9,100	9,404	5,801	3,545	34	24	12,802,655
14	New Jersey ⁴	35	15,934	28	138	389	43	15,336	Oc 15,711	Ja 14,553	15,334	6,723	8,355	108	148	42,981,559
15	New York.....	65	22,278	33	244	797	112	21,092	Ap 22,176	Au 18,984	21,244	11,567	9,461	133	83	59,358,396
16	North Carolina.....	5	413	3	9	9	1	391	De 404	Ja 379	405	220	158	13	14	901,435
17	Ohio ⁵	12	3,054	1	27	56	11	2,959	Oc 3,043	Ja 2,889	2,578	395	2,139	44	.....	6,715,664
18	Oregon.....	7	694	.....	15	27	4	648	Ap 712	Se 561	633	389	238	.....	6	1,867,987
19	Pennsylvania.....	266	35,870	238	552	814	236	34,030	Mh 35,863	No 32,084	34,226	17,169	14,624	1,067	1,366	83,114,491
20	Rhode Island ⁴	80	23,521	22	269	370	115	22,745	Oc 23,466	De 21,231	23,024	11,508	9,985	664	867	57,139,949
21	Tennessee.....	17	1,123	13	25	12	4	1,069	Ja 1,190	Oc 946	1,155	613	476	43	23	1,984,504
22	Vermont.....	17	2,372	4	49	69	24	2,226	De 2,929	Fe 1,843	3,062	2,230	831	1	.....	6,258,265
23	Virginia ⁴	12	464	13	12	7	1	431	De 510	Mh 397	531	383	133	9	6	901,149
24	Washington.....	4	139	.....	9	3	1	126	Mh 149	De 95	148	115	33	.....	.....	361,088
25	West Virginia.....	8	303	6	12	5	4	276	Oc 374	Au 235	402	264	134	4	.....	691,484
26	Wisconsin ⁵	22	891	16	36	32	12	795	Mh ⁶ 863	De 667	777	367	369	11	30	1,809,092
27	All other states ⁷	30	5,402	16	100	150	55	5,081	.....	.....	5,008	2,993	1,931	43	41	15,609,811

WOOLEN GOODS.

1	United States.....	501	51,631	316	1,022	796	332	49,165	Ap 51,499	Au 46,585	52,383	34,796	16,695	488	404	\$107,871,742
2	Connecticut.....	29	4,139	18	83	43	17	3,978	Jy 4,267	Ja 3,459	4,062	2,981	1,006	37	38	7,564,531
3	Georgia.....	3	542	.....	11	4	3	524	Ja 612	De 393	505	267	205	21	12	1,274,798
4	Illinois.....	4	364	.....	18	10	13	323	Mh 348	Au 243	334	238	88	4	4	831,467
5	Indiana.....	10	767	7	23	11	7	719	Fe 818	Au 645	775	398	361	7	9	1,526,924
6	Iowa.....	5	99	5	1	.....	.....	93	My ⁶ 104	De 70	84	67	15	1	1	350,296
7	Maine.....	49	6,484	11	127	71	32	6,243	Ap 6,617	Au 5,539	6,800	4,587	2,136	20	57	16,579,422
8	Massachusetts.....	86	14,372	60	195	179	94	13,844	My 14,779	Au 13,152	14,558	9,873	4,493	78	114	27,045,538
9	Michigan.....	9	509	6	10	11	5	477	De 520	Au 448	528	317	211	.....	.....	1,304,476
10	Minnesota.....	16	498	11	21	15	3	448	Mh 471	De 429	436	236	199	1	.....	1,634,262
11	New Hampshire.....	36	4,218	20	78	46	31	4,043	Mh 4,308	Jy 3,482	4,217	2,974	1,218	19	6	7,956,226
12	New Jersey.....	6	1,508	3	12	13	4	1,476	Oc 1,519	De 1,359	1,359	767	565	12	15	2,516,303
13	New York.....	20	2,303	12	42	32	16	2,201	Oc 2,302	De 1,954	2,275	1,530	709	27	9	5,281,661
14	North Carolina.....	5	413	3	9	9	1	391	De 404	Ja 379	405	220	158	13	14	901,435
15	Oregon.....	7	694	.....	15	27	4	648	Ap 712	Se 561	633	389	238	.....	6	1,867,987
16	Pennsylvania.....	95	6,383	89	163	132	39	5,960	Mh 6,467	No 5,586	6,162	3,803	2,128	163	68	13,884,557
17	Rhode Island.....	19	1,823	10	55	21	11	1,726	Ja 1,841	Oc 1,633	1,949	1,437	490	11	11	3,309,161
18	Tennessee.....	17	1,123	13	25	12	4	1,069	Ja 1,190	Oc 946	1,155	613	476	43	23	1,984,504
19	Virginia.....	12	464	13	12	7	1	431	De 510	Mh 397	531	383	133	9	6	901,149
20	Washington.....	4	139	.....	9	3	1	126	Mh 149	De 95	148	115	33	.....	.....	361,088
21	Wisconsin.....	18	560	16	20	31	8	485	Je 546	De 352	464	237	218	4	5	1,124,388
22	All other states ⁸	51	4,229	19	93	119	38	3,960	.....	.....	5,003	3,364	1,615	18	6	9,671,571

WORSTED GOODS.

1	United States.....	298	113,059	141	1,008	1,793	590	109,527	Ap 113,676	De 100,621	111,425	53,666	52,301	2,251	3,207	\$281,780,836
2	Connecticut.....	20	3,312	2	54	79	22	3,155	My 3,332	Au 2,900	3,248	2,139	968	82	59	9,476,864
3	Maine.....	8	1,803	2	18	17	11	1,755	De 2,001	My 1,603	1,851	978	778	51	44	3,437,116
4	Massachusetts.....	70	40,547	25	297	426	266	39,533	Ap 42,406	De 33,826	41,687	23,247	17,045	513	882	111,953,644
5	New Hampshire.....	4	5,559	2	12	50	6	5,489	Jy 5,684	De 5,136	5,187	2,827	2,327	15	18	4,846,429
6	New Jersey.....	20	13,289	21	104	330	30	12,804	Oc 13,157	Ja 12,007	12,915	5,197	7,500	91	127	36,778,486
7	New York.....	12	4,908	8	48	132	29	4,691	Oc 4,907	De 4,051	4,667	1,968	2,604	51	44	14,124,811
8	Pennsylvania.....	91	18,665	68	217	381	107	17,892	Mh 18,678	De 17,095	17,971	6,788	9,306	741	1,136	39,560,583
9	Rhode Island.....	61	21,698	12	214	349	104	21,019	Oc 21,833	De 19,545	21,075	10,071	9,495	653	856	53,840,788
10	Wisconsin.....	4	331	.....	16	1	4	310	Mh 334	Jy 290	313	130	151	7	25	684,704
11	All other states ⁹	8	2,947	1	28	28	11	2,879	.....	.....	2,511	321	2,127	47	16	7,087,411

¹ Owned power only.² Includes rented power, other than electric.³ Excludes statistics for three establishments, to avoid disclosure of individual operations.⁴ Excludes statistics for one establishment, to avoid disclosure of individual operations.⁵ Excludes statistics for two establishments, to avoid disclosure of individual operations.

MANUFACTURES, BY STATES AND INDUSTRIES: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.				
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.				Electric horse-power generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal-combustion engines. ⁽²⁾	Water wheels and motors. ¹		Electric (rented).

WOOL MANUFACTURES.

\$8,455,823	\$6,195,965	\$93,357,880	\$2,456,260	\$851,874	\$3,070,992	\$289,523,212	\$8,540,286	\$464,249,813	\$166,186,315	442,330	318,206	9,529	80,389	34,206	135,289	1
458,451	202,019	3,730,923	68,273	53,631	92,206	10,404,828	358,682	17,128,975	6,365,465	18,194	10,796	50	6,583	765	2,445	2
25,375	4,980	181,194	-----	-----	5,018	334,918	19,629	597,876	243,329	1,680	1,170	-----	-----	510	-----	3
34,172	13,148	166,600	2,940	8,136	4,353	443,531	17,604	782,510	321,375	1,163	600	-----	280	283	96	4
64,517	12,046	317,739	-----	-----	9,713	955,826	34,948	1,522,027	531,253	1,519	1,217	60	162	80	60	5
3,000	-----	43,208	-----	-----	2,562	226,861	9,419	318,635	82,355	812	505	-----	307	-----	25	6
26,199	9,583	209,741	16,687	9,465	8,913	593,308	17,892	933,933	322,733	1,773	1,714	-----	24	35	310	7
370,535	118,349	4,072,100	185,246	13,512	122,363	10,330,093	493,023	17,531,470	6,708,354	23,839	6,605	695	11,463	5,076	1,956	8
44,100	6,625	141,949	597	2,640	2,517	454,731	7,415	692,914	230,768	1,420	240	-----	1,180	-----	30	9
2,380,983	1,447,897	29,751,872	360,032	163,037	1,367,521	86,527,064	3,218,639	141,329,858	51,584,155	154,061	119,981	1,478	25,402	7,200	71,316	10
20,725	14,456	229,943	-----	-----	11,142	758,893	33,844	1,215,467	422,730	1,311	800	41	25	445	75	11
47,142	18,623	229,222	1,118	3,140	8,865	823,789	25,722	1,297,654	448,143	1,266	441	46	509	270	613	12
235,157	141,502	4,211,498	3,342	12,383	148,607	9,668,876	417,945	15,039,284	4,952,463	30,392	15,012	240	13,577	1,563	11,374	13
601,753	573,714	6,825,537	42,260	15,352	189,673	23,934,027	487,178	38,491,162	14,069,957	26,219	24,233	775	576	635	9,403	14
1,001,012	1,109,856	9,842,186	123,524	32,629	255,906	27,873,093	809,236	47,173,617	18,491,288	39,020	23,899	311	7,454	7,356	10,551	15
20,000	7,030	105,447	-----	-----	5,531	383,319	10,831	666,541	272,391	685	475	-----	210	-----	20	16
120,784	84,535	1,136,458	695	96	60,263	3,373,850	87,700	7,232,534	3,771,284	6,123	4,790	117	120	1,096	2,497	17
29,662	42,009	372,957	-----	1,474	12,898	898,430	44,556	1,701,587	758,601	1,670	353	202	625	490	-----	18
1,530,525	1,356,980	15,766,103	1,363,688	415,559	197,377	57,944,986	1,002,212	87,508,317	28,561,119	58,232	49,218	3,879	1,063	4,072	7,756	19
854,751	601,551	11,367,502	217,123	106,645	386,592	40,723,893	1,010,906	60,888,755	19,153,956	50,206	42,152	1,113	4,980	1,961	10,875	20
38,978	25,532	288,557	468	460	11,282	893,867	29,447	1,546,591	623,277	2,302	1,412	37	45	808	159	21
100,097	81,346	1,167,272	58,610	1,690	39,960	2,850,616	137,996	4,634,593	1,645,981	8,841	5,210	52	3,576	3	1,656	22
15,457	5,770	168,195	1,712	200	5,104	409,662	10,173	789,623	369,788	911	430	111	345	25	50	23
10,969	3,520	70,126	-----	740	2,039	155,144	11,703	272,163	105,316	350	100	-----	-----	250	-----	24
15,895	6,430	118,309	2,732	-----	5,163	406,800	9,909	679,401	262,692	672	505	42	20	105	-----	25
64,973	31,009	374,081	100	4,020	16,484	1,223,317	36,159	1,955,742	696,266	2,103	1,012	72	980	39	102	26
340,611	277,455	2,469,161	7,113	7,065	98,940	6,929,490	197,518	12,318,284	5,191,276	7,566	5,336	208	883	1,139	3,920	27

WOOLEN GOODS.

\$2,452,227	\$1,070,186	\$24,204,479	\$395,915	\$239,985	\$697,270	\$61,343,010	\$2,353,032	\$103,815,905	\$40,119,863	134,597	76,959	3,322	43,089	11,227	12,634	1
249,411	63,263	1,936,423	56,357	22,231	46,836	5,056,813	190,591	8,425,288	3,177,884	10,096	5,631	50	3,802	613	1,115	2
25,375	4,980	181,194	-----	-----	5,018	334,918	19,629	597,876	243,329	1,680	1,170	-----	-----	510	-----	3
30,832	10,094	156,038	2,940	-----	4,241	418,898	17,069	717,466	281,499	940	600	-----	280	60	96	4
64,517	12,046	317,739	-----	-----	9,713	955,826	34,948	1,522,027	531,253	1,519	1,217	60	162	80	60	5
3,000	-----	43,208	-----	-----	2,562	226,861	9,419	318,635	82,355	812	505	-----	307	-----	25	6
299,748	88,426	3,166,752	4,128	8,675	105,115	7,454,092	357,173	12,881,590	5,070,325	19,432	4,880	295	10,838	3,419	1,071	7
581,381	272,138	7,204,444	148,628	58,017	227,938	16,032,975	666,243	28,391,184	11,691,966	33,926	22,547	375	9,122	1,882	4,436	8
20,725	14,456	229,943	-----	-----	11,142	758,893	33,844	1,215,467	422,730	1,311	800	41	25	445	75	9
47,142	18,623	229,222	1,118	3,140	8,865	823,789	25,722	1,297,654	448,143	1,266	441	46	509	270	613	10
100,082	56,872	2,132,394	3,342	12,383	61,540	5,041,407	225,512	8,488,506	3,221,587	15,497	6,312	240	7,497	1,448	1,167	11
63,600	19,494	694,379	-----	8,000	14,861	1,509,188	59,204	2,648,786	1,080,394	2,915	2,390	475	50	-----	-----	12
123,152	62,606	1,129,995	-----	2,371	29,254	2,626,735	98,116	4,840,654	2,115,803	6,703	3,950	311	2,434	8	1,167	13
20,000	7,030	105,447	-----	-----	5,531	383,319	10,831	666,541	272,391	685	475	-----	210	-----	20	14
29,662	42,009	372,957	-----	1,474	12,898	898,430	44,556	1,701,587	758,601	1,670	353	202	625	490	-----	15
315,623	143,324	2,838,514	157,013	91,413	35,596	10,003,528	207,071	15,460,489	5,249,890	13,851	12,186	880	413	372	990	16
102,909	23,057	911,395	10,150	27,731	25,142	2,443,195	74,651	3,973,767	1,455,921	4,116	2,926	-----	1,115	75	210	17
38,978	25,532	288,557	468	460	11,282	893,867	29,447	1,546,591	623,277	2,302	1,412	37	45	808	159	18
15,457	5,770	168,195	1,712	200	5,104	409,662	10,173	789,623	369,788	911	430	111	345	25	50	19
10,969	3,520	70,126	-----	740	2,039	155,144	11,703	272,163	105,316	350	100	-----	-----	250	-----	20
29,331	26,790	217,306	100	60	8,951	621,671	21,268	1,112,567	469,628	1,638	672	72	855	39	64	21
219,433	170,156	1,780,251	9,959	3,090	63,642	4,293,799	205,862	6,947,444	2,447,783	12,977	7,962	127	4,455	433	1,316	22

WORSTED GOODS.

\$3,927,697	\$3,096,306	\$51,748,965	\$1,714,838	\$437,004	\$1,869,953	\$177,950,125	\$4,850,499	\$275,668,474	\$92,867,850	246,623	200,520	4,777	29,531	11,795	103,740	1
184,606	106,601	1,701,536	11,916	30,600	41,553	5,006,244	149,650	8,152,261	2,996,367	7,546	4,775	-----	2,621	150	1,304	2
70,787	29,923	905,348	181,118	4,837	17,248	2,876,001	135,850	4,649,880	1,638,029	4,407	1,725	400	625	1,657	885	3
1,392,427	758,015	19,724,036	211,404	81,392	958,065	62,205,857	2,247,818	98,960,250	34,506,575	105,696	87,675	463	13,155	4,403	59,171	4
74,175	84,630	2,079,104	-----	-----	87,067	4,627,469	192,433	6,550,778	1,730,876	14,895	8,700	-----	6,080	115	10,207	5
455,247	501,783	5,602,654	41,324	3,304	155,725	20,732,643	390,585	33,090,067	11,966,839	21,584	20,563	298	145	578	9,272	6
200,050	228,035	2,155,486	122,724	6,550	93,292	6,819,613	223,618	11,016,981	3,973,750	10,207	8,007	-----	1,670	530	5,584	7
657,276	768,719	7,865,293	866,325	214,421	90,286	33,043,312	488,541	47,652,571	14,120,718	29,018	24,534	2,411	465	1,608	3,437	8
751,842	578,494	10,456,107	206,973	78,914	361,450	38,280,698	936,255	56,914,988	17,698,035	46,090	39,226	1,113	3,865	1,886	10,665	9
35,642	4,219	126,775	-----	3,960	7,533	601,646	14,891	843,175	226,638	465	340	-----	125	-----	38	10
105,636	35,887	1,132,626	73,054	13,026	57,734	3,756,642	70,858	7,837,523	4,010,023	6,715	4,975	92	780	868	3,177	11

* Same number reported for one or more other months.

¹ All other states embrace: California, 1 establishment; Delaware, 2; Missouri, 2; Oklahoma, 1; South Carolina, 2; Texas, 1; and Utah 2; also 19 establishments in certain states which can not be shown separately without disclosing individual operations in some industry of this group.

² All other states embrace: Delaware, 1 establishment; Kentucky, 10; Maryland, 2; Missouri, 2; Ohio, 9; South Carolina, 2; Utah, 2; Vermont, 16; and West Virginia, 7.

³ All other states embrace: Delaware, 1 establishment; Kentucky, 1; Maryland, 1; Ohio, 3; Vermont, 1; and West Virginia, 1.

MANUFACTURES.

TABLE 54.—DETAIL STATISTICS FOR WOOL

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.		Female.
								Maximum month.	Minimum month.						

CARPETS AND RUGS.

1	United States.....	97	33,101	72	372	1,124	224	31,309	Mh 33,175	No 29,240	31,448	18,143	12,654	352	299	\$85,153,828
2	Massachusetts.....	12	5,641	4	65	178	75	5,319	Mh 5,696	De 4,536	5,358	2,851	2,321	112	74	13,841,208
3	New Jersey.....	4	910	3	11	20	4	872	Je 914	De 845	845	551	283	5	6	2,446,824
4	New York.....	14	13,236	4	104	557	31	12,540	Fe 13,467	Au 10,657	12,756	6,923	5,748	55	30	31,651,167
5	Pennsylvania.....	63	10,155	61	153	286	86	9,569	Mh 10,195	No 8,827	9,501	6,150	3,033	156	162	28,378,978
6	All other states ³	4	3,159	.....	39	83	28	3,009	.....	.....	2,988	1,668	1,269	24	27	8,835,651

FELT GOODS.

1	United States.....	53	4,553	11	143	271	93	4,035	Ja 4,282	Jy 3,872	4,120	3,200	908	8	4	\$20,284,048
2	Connecticut.....	4	247	.....	8	19	3	217	Oc 243	Mh 193	237	223	11	2	1	1,072,302
3	Massachusetts.....	15	1,053	.....	45	101	29	878	Ja 955	Jy 797	959	839	113	5	2	5,236,462
4	New Jersey.....	5	227	1	11	26	5	184	Ja 234	Oc 167	215	208	7	.....	.....	1,189,946
5	New York.....	12	1,436	4	40	64	33	1,295	Je 1,326	Au 1,198	1,287	963	324	.....	.....	7,148,979
6	Pennsylvania.....	6	169	1	10	6	2	150	De 172	Fe 84	171	155	16	.....	.....	675,951
7	All other states ⁴	11	1,421	5	29	55	21	1,311	.....	.....	1,251	812	437	1	1	4,960,408

WOOL-FELT HATS.

1	United States.....	30	1,372	38	45	29	11	1,249	Au 1,518	Ja 835	1,074	740	321	11	2	\$2,608,839
2	Illinois.....	5	34	6	4	3	3	18	Ap ⁵ 20	Ja ⁶ 16	18	16	2	.....	.....	18,555
3	New York.....	7	395	5	10	12	3	365	Oc 537	De 259	259	183	76	.....	.....	1,151,778
4	Pennsylvania.....	11	498	19	9	9	2	459	My 597	Ja 301	421	273	141	7	.....	614,422
5	All other states ⁶	7	445	8	22	5	3	407	.....	.....	376	268	102	4	2	824,084

¹ Owned power only.² Includes rented power, other than electric.³ All other states embrace: Connecticut, 3 establishments; and Indiana, 1.

WOOL MANUFACTURES.

83

MANUFACTURES, BY STATES AND INDUSTRIES: 1914—Continued.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.					
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal-combustion engines. ⁽²⁾	Water wheels and motors. ¹	Electric (rented).	

CARPETS AND RUGS.

\$1,415,744	\$1,457,934	\$14,715,615	\$341,286	\$139,494	\$368,655	\$41,265,286	\$1,014,937	\$69,128,185	\$26,847,962	43,963	29,486	1,188	4,130	9,159	16,092	1
250,351	251,642	2,388,790	.....	20,167	146,112	6,448,700	219,580	10,981,344	4,313,064	10,600	7,320	600	2,200	480	7,555	2
51,794	13,280	440,147	936	1,866	13,483	1,342,018	22,686	2,224,751	860,047	1,095	765	.....	300	30	130	3
445,838	625,837	5,666,641	.....	12,076	96,610	15,387,014	391,139	26,075,521	10,297,368	16,097	7,863	.....	1,630	6,604	2,686	4
515,277	427,759	4,798,257	340,350	104,845	66,094	14,186,339	279,201	23,099,647	8,634,107	13,586	11,013	588	.....	1,985	3,329	5
152,484	139,416	1,421,780	.....	540	46,356	3,901,215	102,331	6,746,922	2,743,376	2,585	2,525	.....	.....	60	2,392	6

FELT GOODS.

\$556,190	\$527,951	\$2,089,243	\$4,121	\$9,223	\$116,751	\$8,034,951	\$273,316	\$13,692,765	\$5,384,495	14,056	8,972	242	3,146	1,696	2,155	1
24,434	32,155	92,964	.....	800	3,817	311,771	18,441	551,426	191,214	552	390	.....	160	2	26	2
156,824	166,102	434,602	.....	3,461	35,406	1,839,532	84,998	2,997,080	1,072,550	3,839	2,439	40	925	435	154	3
31,112	39,157	88,357	.....	2,182	5,604	350,178	14,703	527,558	162,677	625	515	2	81	27	1	4
197,023	172,644	711,899	800	1,030	28,839	2,862,020	78,590	4,826,571	1,885,964	4,872	3,450	.....	1,272	150	1,054	5
28,224	7,888	88,873	.....	150	1,923	288,786	12,835	518,732	217,111	705	495	.....	140	70	.....	6
118,573	110,005	672,548	3,321	1,600	41,162	2,352,667	63,749	4,271,395	1,854,979	3,463	1,683	200	568	1,012	920	7

WOOL-FELT HATS.

\$103,965	\$43,588	\$599,578	\$100	\$26,168	\$18,363	\$929,837	\$48,502	\$1,944,484	\$966,145	3,091	2,269	.....	493	329	668	1
3,340	3,054	10,562	.....	8,136	112	24,633	535	65,044	39,876	223	.....	.....	.....	223	.....	2
34,940	20,734	178,165	.....	10,602	7,911	177,711	17,773	413,887	218,403	1,141	629	.....	448	64	60	3
14,125	9,290	175,166	.....	4,730	3,178	423,021	14,564	776,878	339,293	1,072	990	.....	45	37	.....	4
51,560	10,510	235,685	100	2,700	6,862	304,472	15,630	688,675	368,573	655	650	.....	.....	5	608	5

¹ All other states embrace: California, 1 establishment; Illinois, 2; Maine, 2; Ohio, 2; Texas, 1; Virginia, 1; and Wisconsin, 2.

² Same number reported for one or more other months.

³ All other states embrace: Georgia, 1 establishment; Massachusetts, 2; Minnesota, 1; New Jersey, 1; Oklahoma, 1; and Rhode Island, 1.

WOOL SHODDY.

GENERAL STATISTICS.

Scope of the industry.—"Shoddy" is the generic term applied to recovered wool, cotton, jute, or other fiber of any sort—that is, to the fiber obtained by passing rags, clippings, yarns, or waste through machines which reduce them to the condition of clean fiber so that they can be mixed with new material and spun into yarn.

This industry in 1914 was restricted to establishments manufacturing wool shoddy as the chief or only product. Prior to this census a few establishments engaged primarily in the manufacture of cotton or mattress shoddy were included in the industry, which was designated by the general title of "shoddy." The data for eight establishments engaged in the manufacture of cotton shoddy, which were included in this industry in 1909, have now been deducted from the figures for that year; consequently the statistics here given for 1909 as well as for 1914 relate to the production of wool shoddy only.

Comparative figures for the manufacture of wool shoddy are not available prior to 1909.

At previous censuses a few mills engaged in the cutting of flocks were included in the shoddy industry; such establishments were not assigned to this industry in 1914. Mills engaged in the cleaning and garnetting of waste are included only in case the product is designed for further use in the manufacture of textiles; if their product is intended merely for journal packing, for the manufacture of mattresses, etc., they are excluded from the "wool-shoddy" industry.

Comparison with earlier censuses.—From the census of 1859, when statistics for the manufacture of "shoddy" were first obtained, the industry showed a rapid advance up to 1889, but after that time remained practically at a standstill in the number of wage earners employed and in the value of products. Since the statistics for the "shoddy" industry for the censuses prior to 1909 were compiled so as to include all establishments making both wool and cotton shoddy, as well as those making flocks, they are not strictly comparable with the statistics for the more restricted "wool-shoddy" industry and are not presented in this report. A summary of the statistics for the manufacture of wool shoddy for 1914 and 1909 is presented in Table 1.

Twenty-three of the establishments reporting in 1909 discontinued operations prior to 1914, and six others, although continuing in business, ceased to manufacture wool shoddy. On the other hand, thirteen concerns commenced operations between 1909 and 1914, so that the net diminution in number of establishments was sixteen. In spite of this decrease in the number of mills, the industry as a whole ad-

vanced during the five-year period; all the important items which serve as indices of the conditions of the industry showed increases, the average number of wage earners increasing by 11.5 per cent, the value of products by 12.4 per cent, and the amount of capital investment by 2.4 per cent.

Table 1

	THE WOOL-SHODDY INDUSTRY.		
	Number or amount.		Per cent of increase, ¹ 1909-1914.
	1914	1909	
Number of establishments.....	64	80	-20.0
Persons engaged.....	2,391	2,177	9.8
Proprietors and firm members.....	58	76	-23.7
Salaried employees.....	188	178	5.6
Wage earners (average number).....	2,145	1,923	11.5
Primary horsepower.....	12,440	12,535	-0.8
Capital.....	\$6,420,985	\$6,272,154	2.4
Salaries and wages.....	1,343,171	1,129,614	18.9
Salaries.....	287,057	265,548	8.1
Wages.....	1,056,114	864,066	22.2
Paid for contract work.....	1,570	3,581	-56.2
Rent and taxes (including internal revenue).....	65,757	54,752	20.1
Cost of materials.....	5,299,903	4,539,979	16.7
Value of products.....	7,706,843	6,854,993	12.4
Value added by manufacture (value of products less cost of materials).....	2,406,940	2,315,014	4.0

¹ A minus sign (-) denotes decrease.

Summary, by states.—Table 2 summarizes the more important statistics of the industry, by states, for 1914. The detailed summary of all the data for the industry is presented, by states, in Table 12.

Table 2

Table 2	THE WOOL-SHODDY INDUSTRY: 1914.							
	STATE.	Number of establish-ments.	Wage earners.		Value of products.		Value added by manufacture.	
			Aver- age number.	Per cent distri- bution.	Amount.	Per cent distri- bution.	Amount.	Per cent distri- bution.
United States	64	2,145	100.0	\$7,706,843	100.0	\$2,406,940	100.0	
Connecticut	6	135	6.3	341,189	4.4	113,122	4.7	
Massachusetts	17	446	20.8	1,903,016	24.7	636,416	26.4	
New York	11	283	13.2	1,110,303	14.4	342,501	14.2	
Ohio	5	523	24.4	1,353,121	17.6	533,459	22.2	
Pennsylvania	12	193	9.0	959,466	12.4	190,259	7.9	
All other states	13	565	26.3	2,039,748	26.5	591,183	24.6	

Massachusetts was the leading state in the industry, almost one-fourth of the total value of products and more than one-fifth of the wage earners being reported by the establishments in this state. More than one-sixth of the total value of products and almost one-fourth of the wage earners were reported by the mills located in Ohio, this state ranking second in the former respect and first in the latter.

Persons engaged in the industry.—Table 3 shows, for 1914 and 1909, the number of persons engaged in the industry, distributed according to occupational status and sex, the average number of wage earners being

distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

Table 3

CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE WOOL- SHODDY INDUSTRY.				
		Total.	Male.	Fe- male.	Per cent of total.	
					Male.	Fe- male.
All classes.....	1914 1909	2,391 2,177	1,937 1,732	454 445	81.0 79.6	19.0 20.4
Proprietors and officials.....	1914 1909	147 165	142 154	5 11	96.6 93.3	3.4 6.7
Proprietors and firm members.....	1914 1909	58 76	55 69	3 7	94.8 90.8	5.2 9.2
Salaried officers of corporations.....	1914 1909	46 39	44 37	2 2	95.7 94.9	4.3 5.1
Superintendents and managers.....	1914 1909	43 50	43 48	 2	100.0 96.0	 4.0
Clerks and other subordinate salaried employees.....	1914 1909	99 89	81 71	18 18	81.8 79.8	18.2 20.2
Wage earners (average number).....	1914 1909	2,145 1,923	1,714 1,507	431 416	79.9 78.4	20.1 21.6
16 years of age and over.....	1914 1909	2,141 1,921	1,711 1,505	430 416	79.9 78.3	20.1 21.7
Under 16 years of age.....	1914 1909	4 2	3 2	1	75.0 100.0	25.0

Wage earners employed, by months.—Table 4 gives the number of wage earners employed in the wool-shoddy industry on the 15th (or the nearest representative day) of each month during 1914 and 1909.

Table 4

MONTH.	WAGE EARNERS IN THE WOOL- SHODDY INDUSTRY.			
	Number.		Per cent of maximum.	
	1914	1909	1914	1909
January.....	2,143	1,864	93.7	91.6
February.....	2,224	1,908	97.2	93.7
March.....	2,220	1,924	97.0	94.5
April.....	2,250	1,895	98.3	93.1
May.....	2,188	1,904	95.6	93.5
June.....	2,137	1,920	93.4	94.3
July.....	2,097	1,915	91.6	94.0
August.....	2,041	1,886	89.2	92.6
September.....	2,014	1,916	88.0	94.1
October.....	2,034	1,952	88.9	95.9
November.....	2,104	1,956	92.0	96.1
December.....	2,288	2,036	100.0	100.0

It may be noted in connection with this table that December was the month of maximum employment both in 1909 and 1914. The months of maximum and minimum employment for 1914, and the number of wage earners reported for these months, are given for the principal states in Table 12.

Prevailing hours of labor.—In Table 5 the wage earners in the wool-shoddy industry have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment is classified as a total, even though a few

employees worked a greater or smaller number of hours.

Table 5

STATE.	AVERAGE NUMBER OF WAGE EARNERS IN THE WOOL-SHODDY INDUSTRY: 1914.					
	Total.	In establishments where the prevail- ing hours of labor per week were—				
		48 and under.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.
United States.....	2,145	7	516	498	731	393
Connecticut.....	135	.....	.....	56	79	.....
Massachusetts.....	446	7	94	108	196	41
New Jersey.....	211	.....	.....	.....	211	.....
New York.....	283	.....	194	54	35	.....
Ohio.....	523	.....	.....	2	169	352
Pennsylvania.....	193	.....	.....	183	10	.....
All other states.....	354	.....	228	95	31	.....

Character of ownership.—Table 6 presents statistics in respect to the character of ownership, or legal organization, of the wool-shoddy mills in the United States.

Table 6

CHARACTER OF OWNERSHIP.	THE WOOL-SHODDY INDUSTRY.					
	Number of estab- lishments.		Average num- ber of wage earners.		Value of products.	
	1914	1909	1914	1909	1914	1909
Total.....	64	80	2,145	1,923	\$7,706,843	\$6,854,993
Individuals.....	19	36	281	518	1,045,922	2,130,203
Corporations.....	30	29	1,583	1,060	5,177,865	3,452,251
All others.....	15	15	281	345	1,483,056	1,272,539
Per cent of total.....	100.0	100.0	100.0	100.0	100.0	100.0
Individuals.....	29.7	45.0	13.1	26.9	13.6	31.1
Corporations.....	46.9	36.2	73.8	55.1	67.2	50.4
All others.....	23.4	18.8	13.1	17.9	19.2	18.6

The significant feature of the above table is the increasing relative importance of establishments under corporate ownership. Accompanying this trend is a decrease from 1909 to 1914 both in the number and importance of establishments owned by individuals. The class of "all other" ownership includes general and limited partnerships and any other types of ownership reported.

Size of establishments.—Table 7 presents statistics for 1914 and 1909, for the number of establishments in the wool-shoddy industry, grouped according to the value of their products, and for each group the average number of wage earners, value of products, and value added by manufacture. The per cent distribution of the items constituting each total is also given.

While establishments manufacturing products valued at over \$100,000 represented only a little more than one-fourth of the total number in 1909 and one-third in 1914, they reported 77.1 per cent of the total value of products in 1909 and 81.8 per cent in 1914. None of the establishments reported products to the value of \$1,000,000 in either year.

Table 7

VALUE OF PRODUCT.	THE WOOL-SHODDY INDUSTRY.							
	Number of establishments.		Average number of wage earners.		Value of products.		Value added by manufacture.	
	1914	1909	1914	1909	1914	1909	1914	1909
Total.....	64	80	2,145	1,923	\$7,706,843	\$6,854,993	\$2,406,940	\$2,315,014
Less than \$5,000.....	6	14	8	27	15,887	40,021	12,867	22,953
\$5,000 to \$20,000.....	14	19	84	124	159,942	196,815	92,761	112,618
\$20,000 to \$100,000.....	21	25	514	493	1,226,158	1,332,960	537,430	547,497
\$100,000 to \$1,000,000.....	23	22	1,539	1,279	6,304,856	5,285,197	1,763,882	1,631,946
Total.....	PER CENT DISTRIBUTION.							
	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
	1914	1909	1914	1909	1914	1909	1914	1909
Less than \$5,000.....	9.4	17.5	0.4	1.4	0.2	0.6	0.5	1.0
\$5,000 to \$20,000.....	21.9	23.8	3.9	6.4	2.1	2.9	3.8	4.9
\$20,000 to \$100,000.....	32.8	31.2	24.0	25.6	15.9	19.4	22.3	23.6
\$100,000 to \$1,000,000.....	35.9	27.5	71.7	66.5	81.8	77.1	73.3	70.5

The average value of products per establishment increased from \$85,687 in 1909 to \$120,419 in 1914, and the average value added by manufacture increased from \$28,938 to \$37,608. The average number of wage earners per establishment shows an increase from 24 in 1909 to 34 in 1914.

Engines and power.—Table 8 shows statistics of power as reported at the censuses of 1914 and 1909.

The amount of primary horsepower used in the wool-shoddy industry showed a slight decrease during the five-year period; the number of engines and motors, however, increased. This condition was due to the substitution of electric motors, run by purchased power, for steam engines and water wheels.

Fuel consumed.—Bituminous coal was the principal class of fuel used, 41,042 short tons being consumed in the industry in 1914. The total amount expended for fuel and rent of power, as shown in Table 12, was \$232,019.

Table 8

POWER.	THE WOOL-SHODDY INDUSTRY.					
	Number of engines or motors.		Horsepower.			
	1914	1909	Amount.		Per cent distribution.	
			1914	1909	1914	1909
Primary power, total.....	168	153	12,440	12,535	100.0	100.0
Owned.....	106	136	10,748	11,822	86.4	94.3
Steam engines and turbines....	61	77	7,498	7,785	60.3	62.1
Internal-combustion engines....	1	1	20	50	0.2	0.4
Water wheels, turbines, and motors.....	44	58	3,230	3,987	26.0	31.8
Rented.....	62	17	1,692	713	13.6	5.7
Electric.....	62	17	1,496	545	12.0	4.3
Other.....			196	168	1.6	1.3
Electric.....	84	26	1,916	738	100.0	100.0
Rented.....	62	17	1,496	545	78.1	73.8
Generated by establishments reporting.....	22	9	420	193	21.9	26.2

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

Table 9 shows for 1914 and 1909 statistics of the materials used, of the quantity and value of the several kinds of products, and of the number of cards, pickers, and garnett machines employed.

The principal materials consumed in this industry were rags, tailors' clippings, etc., although a considerable amount of noils and wool waste were used. This item is composed chiefly of thread waste, such as hard ends, etc., which is sold to the shoddy mills to be reduced to the original fiber. Small amounts of raw wool and of recovered wool fiber were also reported among the materials used.

The principal products are recovered wool fiber, carbonized rags, frequently known as "wool extract," and mattress shoddies, while a small amount of noils and other wastes were reported. In England the term "shoddy" is usually applied to the fiber manufactured from waste yarn and soft fabrics, while that made from hard-spun fabrics is termed "mungo." These

two classes of goods are included in this report as "recovered wool fiber." Carbonized rags are obtained by carbonizing fabrics with chemicals which destroys the vegetable fiber and leaves the wool practically uninjured. When these "carbonized rags" are put through a picker, garnett, or other machine, which separates the fiber and brings it into the condition of clean wool ready for carding or combing, the product is recovered wool fiber, sometimes called "shoddy." All recovered wool fiber, however, is not the result of carbonizing, as all-wool fabrics, wastes, yarns, etc., are sent direct to the picker. Frequently mixed goods also are sent to the picker, without carbonizing, and this product is "shoddy" though of a low grade and is used largely in making mattresses.

The statistics in Table 9 cover the operations of establishments manufacturing recovered wool fiber as a final product. They do not include its manufacture in woolen mills which use it as material in fur-

ther manufacturing processes, almost half of the total recovered wool fiber being manufactured and consumed in such establishments. In 1914, establishments engaged in wool manufactures produced for their own consumption 40,787,349 pounds, and produced for sale 893,373 pounds of wool shoddy, which added to the production of the wool-shoddy mills, amounted to a total of 84,836,759 pounds. The corresponding total for 1909 was 74,416,406 pounds.

Table 9.

THE WOOL-SHODDY INDUSTRY.			
	1914	1909	Per cent of increase, ¹ 1909-1914.
MATERIALS.			
Total cost.....	\$5,299,903	\$4,539,979	16.7
Rags, clippings, etc.:			
Pounds.....	57,367,962	43,296,261	32.5
Cost.....	\$3,103,864	\$2,644,570	17.4
Wool and other noils and wool waste:			
Pounds.....	6,879,366	7,567,579	-9.1
Cost.....	\$863,633	\$917,976	-5.9
Recovered wool fiber:			
Pounds.....	1,658,432	533,822	210.7
Cost.....	\$168,457	\$48,342	248.5
Wool (in condition purchased):			
Pounds.....	203,868	237,097	-14.0
Cost.....	\$81,514	\$98,032	-16.8
Equivalent of above in scoured condition, pounds.....	203,868	196,097	4.0
Chemicals and dyestuffs, cost.....	\$103,849	\$138,241	-24.9
All other materials, cost.....	\$978,586	\$692,818	.....
PRODUCTS.			
Total value.....	\$7,706,843	\$6,854,993	12.4
Recovered wool fiber:			
Pounds.....	43,156,037	38,291,465	12.7
Value.....	\$5,977,284	\$5,679,283	5.2
Carbonized rags (wool extract):			
Pounds.....	4,627,568	3,648,662	26.8
Value.....	\$636,332	\$593,331	7.2
Cotton and mattress shoddies:			
Pounds.....	509,500	(⁴)	.....
Value.....	\$27,065	(⁴)	.....
All other products, value.....	\$659,462	\$355,137	85.7
Amount received from contract work for others on materials or goods furnished by them.....	\$406,700	\$227,242	79.0
EQUIPMENT.			
Cards, number of sets.....	574	503	14.1
Pickers, number.....	315	332	-5.1
Garnett machines, number.....	178	141	26.2

¹ A minus sign (-) denotes decrease.

² In addition, wool shoddy to the value of \$151,982 was made for sale by 4 establishments engaged primarily in the manufacture of other products.

³ In addition, wool shoddy to the value of \$367,278 was made by 10 establishments engaged primarily in the manufacture of other products.

⁴ Not reported separately.

Table 10 shows, for 1914 and 1909, the total quantity of recovered wool fiber made in all mills manufacturing this product, whether for sale or for use in further manufacture.

The inquiry relating to the amount of shoddy produced in woolen mills for their own use was, in some instances, answered unsatisfactorily by the manufacturers, and in such cases estimates were made. Since 62,083,016 pounds of rags, tailors' clippings, etc., were reported as consumed in wool manufactures, the quantity of shoddy reported as made in the industry (41,680,722 pounds) would appear to be approximately correct.

Table 10

	PRODUCTION OF RECOVERED WOOL FIBER (POUNDS).	
	1914	1909
Total.....	84,836,759	74,416,406
For sale.....	41,049,410	41,470,773
By wool-shoddy mills.....	43,156,037	38,291,465
By other establishments.....	893,373	3,179,308
For use in same establishment.....	40,787,349	32,945,633
By establishments manufacturing primarily:		
Woolen goods.....	39,616,226	31,021,323
Worsted goods.....	464,029	1,045,310
Felt goods.....	707,094	875,000
Carpets and rugs.....	.....	4,000

Of the shoddy used in 1914 in the establishments where manufactured, 97.1 per cent was made in establishments engaged primarily in the manufacture of woolen goods, the corresponding percentage for 1909 being 94.2. Establishments manufacturing shoddy for sale reported 51.9 per cent of the total production in 1914 and 55.7 per cent in 1909.

A feature of the development of wool manufactures during the five-year period 1909-1914 was the increase in the amount of shoddy consumed and the decrease in that of scoured wool. Table 11 shows the amount of scoured wool and shoddy used in wool manufactures in 1914 and 1909, and the proportion which each represented of the combined total.

Table 11

MATERIAL.	SCoured WOOL AND RECOVERED WOOL FIBER USED IN WOOL MANUFACTURES.			
	1914		1909	
	Quantity (pounds).	Per cent of total.	Quantity (pounds).	Per cent of total.
Total.....	378,632,196	100.0	410,301,795	100.0
Scoured wool.....	307,705,932	81.3	352,478,605	85.9
Recovered wool fiber.....	70,946,264	18.7	57,823,190	14.1
Purchased.....	30,158,915	8.0	24,877,557	6.1
Made in establishments using.....	40,787,349	10.8	32,945,633	8.0

DETAIL STATE TABLE.

The principal statistics secured by the census inquiry concerning the shoddy industry are presented, by states, in Table 12, which gives detail statistics for 1914 only.

Table 12

THE WOOL-SHODDY INDUSTRY: DETAILED STATISTICS BY STATES: 1914.

	United States.	Connecticut.	Massachusetts.	New York.	Ohio.	Pennsylvania.	All other states.
Number of establishments.....	64	6	17	11	5	12	¹ 13
Persons engaged.....	2,391	148	514	323	569	226	611
Proprietors and firm members.....	58	5	11	8	1	21	12
Salaried officers, superintendents and managers.....	89	5	30	17	11	6	20
Clerks and other subordinate salaried employees:							
Males.....	81	2	20	11	31	6	11
Females.....	18	1	7	4	3	.....	3
Wage earners (average number).....	2,145	135	446	283	523	193	565
Number, 15th day of—							
Maximum month.....	De 2,288	Fe ² 152	De 521	De 307	De 556	De 206	.....
Minimum month.....	Se 2,014	No 106	Oc 381	Se 255	Se 492	Je ² 183	.....
Wage earners December 15, or nearest representative day.....	2,317	152	522	306	560	203	574
Males, 16 years of age and over.....	1,848	142	492	260	378	152	424
Females, 16 years of age and over.....	465	9	30	46	182	48	150
Males, under 16 years of age.....	3	.....	.....	.....	.....	3	.....
Females, under 16 years of age.....	1	1	.....	.....	.....	.....	.....
Capital.....	\$6,420,985	\$410,067	\$1,370,298	\$943,202	\$1,285,417	\$850,325	\$1,561,676
Expenses:							
Salaries and wages—							
Officials.....	\$198,697	\$6,420	\$74,412	\$34,480	\$34,700	\$6,683	\$42,002
Clerks, etc.....	\$88,360	\$2,074	\$22,110	\$14,524	\$25,140	\$5,996	\$18,516
Wage earners.....	\$1,056,114	\$66,495	\$240,059	\$145,352	\$255,035	\$97,838	\$251,335
For contract work.....	\$1,570	\$700	.....	\$870	.....	.....	.....
Rent and taxes—							
Rent of factory.....	\$21,582	\$1,020	\$5,180	\$2,400	\$160	\$6,970	\$5,852
Taxes, including internal revenue and corporation income.....	\$44,175	\$2,004	\$10,980	\$4,944	\$14,176	\$2,469	\$9,602
For materials—							
Principal materials.....	\$5,067,884	\$215,283	\$1,197,577	\$738,674	\$778,783	\$754,072	\$1,383,495
Fuel and rent of power.....	\$232,019	\$12,784	\$69,023	\$29,128	\$40,879	\$15,135	\$65,070
Value of products.....	\$7,706,843	\$341,189	\$1,903,016	\$1,110,303	\$1,353,121	\$959,466	\$2,039,748
Value added by manufacture.....	\$2,406,940	\$113,122	\$636,416	\$342,501	\$533,459	\$190,259	\$591,183
Power:							
Primary horsepower.....	12,440	1,491	3,106	1,891	1,410	1,307	3,235
Steam engines ³	7,498	716	1,765	895	1,190	1,252	1,680
Internal-combustion engines ⁴	216	.....	156	.....	.....	.....	60
Water wheels and motors.....	3,230	715	1,010	747	.....	.....	758
Electric (rented).....	1,496	60	175	249	220	55	737
Electric horsepower generated in establishments reporting.....	420	.....	.....	10	80	.....	330

¹ Includes establishments distributed as follows: Illinois, 1; Maine, 2; New Jersey, 3; Rhode Island, 3; Tennessee, 1; Vermont, 2; Wisconsin, 1.

² Same number reported for one or more other months.

³ Owned power only.

⁴ Includes rented power, other than electric.

WOOL PULLING.

This industry includes establishments that buy pelts and report their cost under "cost of materials," and the value of the pulled wool and the skins under "value of products," and also establishments pulling wool, on contract, from pelts owned by others and reporting as value of products only the amount received for work done. Variations in the relative importance of these two classes of establishments render it imprac-

ticable to make any significant comparisons of cost of materials and value of products for different censuses, but it may be said that for 1899 and 1904 the value of products was largely the amount received for the work performed, whereas in 1914 very little commission work was reported. Table 1 summarizes the statistics for the industry—that is, for the independent wool-pulling establishments for 1914, 1909, 1904, and 1899.

Table 1	WOOL PULLING.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	34	37	34	34	-8.1	8.8	.....
Persons engaged.....	823	759	786	541	8.4	-3.4	45.3
Proprietors and firm members.....	31	37	40	31	-16.2	-7.5	29.0
Salaried employees.....	84	91	65	35	-7.7	40.0	85.7
Wage earners (average number).....	708	631	681	475	12.2	-7.3	43.4
Primary horsepower.....	2,248	1,366	1,324	820	64.6	3.2	61.5
Capital.....	\$3,534,203	\$3,247,928	\$2,534,029	\$944,715	8.8	28.2	168.2
Salaries and wages.....	595,596	518,511	439,169	283,372	14.9	18.1	55.0
Salaries.....	143,406	131,596	74,415	35,422	9.0	76.8	110.1
Wages.....	452,190	386,915	364,754	247,950	16.9	6.1	47.1
Paid for contract work.....	16,621	22,460	.....	300	-26.0	.....	.....
Rent and taxes (including internal revenue).....	34,829	33,241	22,185	13,020	4.8	.....	.....
Cost of materials.....	6,632,101	4,103,250	103,984	53,975	61.6	(³)	(³)
Value of products.....	8,272,721	5,180,856	881,706	531,287	59.7	(³)	(³)
Value added by manufacture (value of products less cost of materials).....	1,640,620	1,077,606	777,722	477,312	52.2	38.6	62.9

¹ A minus sign (—) denotes decrease.

² Not including internal revenue.

³ Figures not strictly comparable.

Of the total value of products in 1914, \$8,272,721, the value of pulled wool amounted to \$5,741,537, the value of pickled skins and "slats" to \$2,285,329, and other products, including glue stock, receipts for custom work, etc., to \$245,855. The number of pounds of wool pulled by the establishments in the industry was not reported.

Large quantities of wool are pulled in slaughtering and meat-packing establishments, which in 1914 reported 26,432,398 pounds, valued at \$7,938,212, and in tanning establishments, which reported 8,413,541 pounds, valued at \$2,496,741. In addition, pulled wool to the value of \$234,160 was reported by establishments in other industries.

WOOL SCOURING.

Wool scouring in this country has been chiefly done in the wool-manufacturing establishments. The independent scouring plants are of comparatively recent development.

Table 1 summarizes the statistics of the wool-scouring industry—that is, of the independent establishments engaged in wool scouring—for 1914, 1909, 1904, and 1899. The statistics for such establishments were not segregated prior to 1899.

Table 1

	WOOL SCOURING.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	24	28	27	25	-14.3	3.7	8.0
Persons engaged.....	1,194	1,262	852	776	-5.4	48.1	9.8
Proprietors and firm members.....	11	18	18	11	-38.9		63.6
Salaried employees.....	124	102	55	45	21.6	85.5	22.2
Wage earners (average number).....	1,059	1,142	779	720	-7.3	46.6	8.2
Primary horsepower.....	7,579	6,782	3,478	2,900	11.8	95.0	19.9
Capital.....	\$3,493,474	\$3,257,585	\$1,187,716	\$1,061,123	7.2	174.3	11.9
Salaries and wages.....	778,147	700,364	475,505	410,617	11.1	47.3	15.8
Salaries.....	161,554	142,646	77,694	72,011	13.3	83.6	7.9
Wages.....	616,593	557,718	397,811	338,606	10.6	40.2	17.5
Paid for contract work.....	9,889	12,442			-20.5		
Rent and taxes (including internal revenue).....	44,389	29,660	² 25,461	² 39,245	49.7		
Cost of materials.....	3,176,438	2,122,102	214,624	193,826	49.7	(³)	(³)
Value of products.....	4,565,412	3,289,215	1,052,909	889,809	38.8	(³)	(³)
Value added by manufacture (value of products less cost of materials).....	1,388,974	1,167,113	838,285	695,983	19.0	39.2	20.4

¹ A minus sign (—) denotes decrease.

² Not including internal revenue.

³ Figures not strictly comparable.

In some cases the wool scoured is owned by the establishments and its cost is included in the cost of materials and its value in the value of products; in other cases, when the work is done under contract, the value of products represents only the amount received for work done on materials furnished by others. The statistics for 1914 and 1909, in particular, cover a number of cases where the raw wool was purchased, and consequently the statistics for cost of materials and value of products as reported at the different censuses are not comparable. Of the total value of products for the industry for 1914, \$4,565,412, the amount received for commission work amounted to \$1,324,355. Statistics for the quantity of wool scoured by the in-

dependent establishments in 1914 are not available. The total quantity of scoured wool used in the textile industries was 313,982,057 pounds, but the bulk of this was scoured in the establishments where it was used.

In addition to the work of scouring, six concerns also did carding and combing, about 100 wool-combing machines being used by these mills. The amount of tops produced was not reported by all these establishments, but from the statistics of those establishments which did report the quantity made, it may be estimated that at least 8,000,000 pounds of tops were produced on commission by wool-scouring mills.

THE HOSIERY AND KNIT-GOODS INDUSTRY.

SUMMARY AND ANALYSIS.

Scope of the industry.—The classification "hosiery and knit goods" covers all establishments whose business is primarily the manufacture of knit goods, without regard to the kind of material used. Prior to 1909 a distinction was made between establishments using power-driven machines and those using hand machines only, statistics for the latter being published under the designation "hand-knit goods." Owing to the almost universal use of power-driven machines in recent years the distinction between the two classes of establishments has lost its significance, and the census reports for 1909 and 1914 cover both branches of the industry. While the number of establishments using hand machines increased from 110 in 1909 to 131 in 1914, the value of their products decreased from \$1,517,939 in 1909 to \$871,579 in 1914, or 42.6 per cent.

More mills were engaged in the manufacture of hosiery and knit goods than in any other single line of textile manufacture, and with the exception of the smallest group, "cordage and twine, jute goods, and linen goods," the hosiery and knit-goods industry showed the greatest relative increases for the five-year period 1909-1914. In number of wage earners and in value of products, this industry ranked third among the textile industries, being surpassed by cotton and by wool manufactures.

Comparison with earlier censuses.—The first statistics of manufacturing industries were collected in 1810

by Tench Coxe, and published as "A statement of the Arts and Manufactures of the United States of America." In this publication the value of hosiery and knit goods manufactured was given as \$572,742, reported from nine states and "Orleans Territory." The entire product consisted of stockings, while the machinery was represented by 148 stocking looms. Virginia led in the quantity and value of the product, reporting 227,578 pairs, worth \$1 per pair, and Pennsylvania ranked second with 107,508 pairs, valued at \$134,406. The looms were distributed, 136 in Pennsylvania, 10 in Maryland, and 2 in Virginia. According to the statement of Mr. Coxe, all of this manufacturing was done in the home and it was strictly a household industry.

The publication of statistics of the hosiery and knit-goods industry in any detail was first undertaken at the census of 1849. They were obtained at each subsequent decennial census, including 1899, since which time they have been published every five years. In 1849, 85 establishments reported products valued at \$1,028,102, while in 1914 there were nearly twenty times as many establishments and the product was more than two hundred and fifty times as great.

Table 1 summarizes the statistics of establishments engaged in the manufacture of hosiery and knit goods for each census from 1869 to 1914, and gives percentages of increase.

	NUMBER OR AMOUNT.							PER CENT OF INCREASE. ¹					
	1914	1909	1904	1899	1889	1879	1869	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	1,622	1,374	1,144	1,006	824	398	248	18.0	20.1	13.7	22.1	107.0	60.5
Persons engaged.....	159,673	136,130	109,489	(2)	(2)	(2)	(2)	17.3	24.3	-----	-----	-----	-----
Proprietors and firm members.....	1,298	1,134	1,067	(2)	(2)	(2)	(2)	14.5	6.3	-----	-----	-----	-----
Salaried employees.....	7,855	5,721	4,330	2,831	(2)	(2)	(2)	37.3	32.1	52.9	-----	-----	-----
Wage earners (average number).....	150,520	129,275	104,092	83,691	59,774	30,699	14,788	16.4	24.2	24.4	(3)	(3)	(3)
Primary horsepower.....	125,842	103,709	78,769	57,346	34,564	11,561	6,498	21.3	31.7	37.4	65.9	199.0	77.9
Capital.....	\$215,826,340	\$166,641,171	\$106,943,072	\$82,065,517	\$50,686,206	\$15,732,291	\$10,931,260	31.9	53.0	30.3	61.9	222.2	43.9
Salaries and wages.....	71,039,186	52,431,680	36,069,758	27,572,657	18,325,261	6,839,195	4,429,085	35.5	45.4	30.8	50.5	167.9	54.4
Wages.....	11,281,035	7,691,457	4,455,151	3,138,160	(2)	(2)	(2)	46.7	72.6	42.0	-----	-----	-----
Value added for contract work.....	59,758,151	44,740,223	31,614,607	24,434,497	(2)	(2)	(2)	33.6	41.5	29.4	-----	-----	-----
Taxes and taxes (including internal revenue).....	3,239,695	2,158,078	786,215	1,141,828	(2)	(2)	(2)	50.1	174.5	-31.1	-----	-----	-----
Cost of materials.....	2,355,597	1,345,341	934,331	711,030	(2)	(2)	(2)	75.1	44.0	31.4	-----	-----	-----
Value of products.....	146,687,458	110,241,053	76,789,348	51,195,330	35,949,865	15,449,991	9,835,823	33.1	43.6	50.0	42.4	132.7	57.1
Value added by manufacture (value of products less cost of materials).....	258,912,903	200,143,527	137,076,454	95,833,692	67,446,788	29,613,581	18,411,564	29.4	46.0	43.0	42.1	127.8	60.8
	112,225,445	89,902,474	60,287,106	44,638,362	31,496,923	14,163,590	8,575,741	24.8	49.1	35.1	41.7	122.4	65.2

¹ A minus sign (—) denotes decrease.

² Figures not available.

³ Figures not strictly comparable.

⁴ Exclusive of internal revenue.

The industry shows a continuous increase throughout the period covered by the table, the number of establishments being more than six times and the value of products fourteen times greater in 1914 than 45 years before. The actual increase in the value of

products is even greater since the financial figures for 1869 are given in currency, which at that time was worth only about 80 cents, gold, to the dollar. For strict comparison, therefore, the financial figures for 1869 should be reduced about 20 per cent.

The advance in the industry during the last five years is due primarily to the greatly increased demand for silk hosiery, underwear, gloves, sweaters, etc. This increase is slightly overstated, however, since some knitting mills using silk exclusively as a material were classed with the silk manufacturing industry in 1909 but with the hosiery and knit-goods industry in 1914.

Summary, by states.—Table 2 summarizes the more important statistics of the industry, by states,

the states being arranged according to the value of products reported for 1914. A few of the states, for which data can not be shown separately without disclosing the operations of individual establishments, ranked higher than some of those named in the table. The relative importance of the several states is indicated by their rank in each of the items given in the table.

Table 2

Table 2	HOSIERY AND KNIT-GOODS INDUSTRY: 1914.												PER CENT OF INCREASE. ¹									
	STATE.	Number of establishments.	Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number).			Value of products.			Value added by manufacture.				
			Average number.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904		
United States...	1,622	150,520	100.0	....	....	\$258,912,903	100.0	....	....	\$112,225,445	100.0	....	....	16.4	24.2	24.4	29.4	46.0	43.0	24.8	49.1	35.1
New York.....	483	40,095	26.6	2	2	78,229,235	30.2	1	1	34,369,356	30.6	1	1	11.5	22.4	10.3	16.5	44.9	28.6	20.8	57.1	14.9
Pennsylvania.....	498	41,130	27.3	1	1	64,153,449	24.8	2	2	26,397,148	23.5	2	2	7.7	35.6	30.5	29.2	61.2	40.5	17.6	51.9	31.4
Massachusetts.....	77	10,635	7.1	3	3	17,419,077	6.7	3	3	8,152,406	7.3	3	3	7.0	22.4	21.6	18.2	46.0	52.0	5.0	53.0	36.3
Wisconsin.....	68	6,244	4.2	5	5	13,292,305	5.1	4	4	6,267,073	5.6	4	4	45.8	-0.7	55.8	69.5	57.5	98.5	58.4	47.6	102.8
North Carolina.....	74	7,787	5.2	4	4	8,892,362	3.4	5	8	2,482,703	2.2	11	8	51.2	75.0	96.9	72.6	107.4	142.8	16.1	96.5	109.8
Ohio.....	38	3,411	2.3	10	7	8,654,103	3.3	6	5	3,621,578	3.2	6	7	8.3	26.5	75.4	34.5	60.9	152.2	40.3	41.9	131.8
New Jersey.....	62	4,025	2.7	7	13	7,849,556	3.0	7	12	4,514,134	4.0	5	10	60.6	42.5	-5.5	106.0	49.5	43.0	127.5	70.0	51.4
Tennessee.....	26	5,690	3.8	6	9	7,522,846	2.9	8	13	3,123,676	2.8	8	13	82.5	72.2	254.2	111.0	119.0	312.2	116.1	119.3	351.4
Illinois.....	46	3,535	2.3	8	10	7,367,235	2.8	9	6	3,300,596	2.9	7	6	21.4	24.4	27.8	23.9	59.4	69.2	21.6	73.5	70.3
Michigan.....	34	2,714	1.8	13	12	5,232,985	2.0	10	10	2,622,550	2.3	9	11	6.6	-17.5	23.0	29.9	11.2	29.8	32.3	11.3	33.6
Connecticut.....	25	2,904	1.9	12	6	5,221,683	2.0	11	7	2,495,112	2.2	10	5	-13.1	-7.1	10.8	-10.0	8.0	32.8	-9.3	8.1	38.3
Georgia.....	22	3,468	2.3	9	11	4,892,931	1.9	12	14	1,830,079	1.6	14	15	26.4	41.8	60.2	51.4	39.0	89.0	34.5	49.7	91.8
Minnesota.....	13	2,088	1.4	16	17	4,665,325	1.8	13	17	2,138,906	1.9	12	16	98.5	71.1	109.9	108.0	86.4	193.4	84.9	100.5	170.9
New Hampshire.....	20	3,328	2.2	11	8	4,282,739	1.7	14	9	1,903,319	1.7	13	9	6.4	12.2	12.0	-10.1	19.9	53.3	-10.6	21.9	37.0
Rhode Island.....	23	2,030	1.3	17	15	4,191,841	1.6	15	11	1,787,239	1.6	15	14	14.4	3.1	7.8	8.4	15.6	22.8	25.7	32.4	12.6
Indiana.....	11	2,338	1.6	14	14	3,748,382	1.4	16	16	1,719,412	1.5	16	12	21.0	12.4	-14.7	57.4	13.1	-13.2	17.2	46.6	-18.3
Virginia.....	13	2,272	1.5	15	16	3,515,916	1.4	17	15	1,408,176	1.3	17	17	32.5	-6.9	-0.2	42.8	16.8	40.7	41.4	27.4	11.7
Vermont.....	7	963	0.6	20	19	2,164,897	0.8	18	18	760,935	0.7	18	18	1.8	3.3	-12.0	24.0	-12.2	8.4	15.9	-15.0	7.4
Maryland.....	10	1,077	0.7	19	18	1,115,701	0.4	20	19	472,192	0.4	21	19	5.4	16.7	28.4	-4.8	23.1	85.2	-0.6	12.8	152.1
California.....	16	405	0.3	24	25	902,211	0.3	21	23	478,352	0.4	20	23	51.1	20.7	.....	99.6	26.6	160.6	89.6	19.4	.....
Alabama.....	5	781	0.5	21	22	764,408	0.3	22	22	317,226	0.3	22	22	27.8	21.0	.....	29.3	28.5	.....	14.4	34.5	.....
South Carolina.....	6	771	0.5	22	20	749,394	0.3	23	20	250,250	0.2	24	21	-8.1	-20.7	194.7	14.4	-33.3	175.3	-22.2	-34.9	220.1
Utah.....	11	183	0.1	27	27	528,325	0.2	24	25	245,651	0.2	25	27	5.2	.....	.....	26.0	.....	.....	93.6	.....	.....
Delaware.....	3	496	0.3	23	23	505,668	0.2	25	24	191,994	0.2	27	26	0.8	52.3	-44.5	12.6	51.7	-31.0	15.0	26.5	-40.0
Washington.....	10	60	(²)	30	30	166,566	0.1	28	30	92,766	0.1	29	30	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maine.....	9	71	(²)	29	29	145,276	0.1	29	29	63,271	0.1	30	29	.....	.....	.....	.....	.....	.....	.....	.....	.....
All other states.....	12	2,019	1.4	....	....	2,738,487	1.1	....	....	1,219,345	1.1	....	....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Percentages are based on figures in Table 31; a minus sign (—) denotes decrease. Percentages are omitted where base is less than 100 for wage earners or less than \$100,000 for value of products or value added by manufacture, or where comparable figures can not be given.

² Less than one-tenth of 1 per cent.

The manufacture of hosiery and knit goods—reported from 34 states—is more widely distributed throughout the country than is the manufacture of either cotton, wool, or silk woven goods.

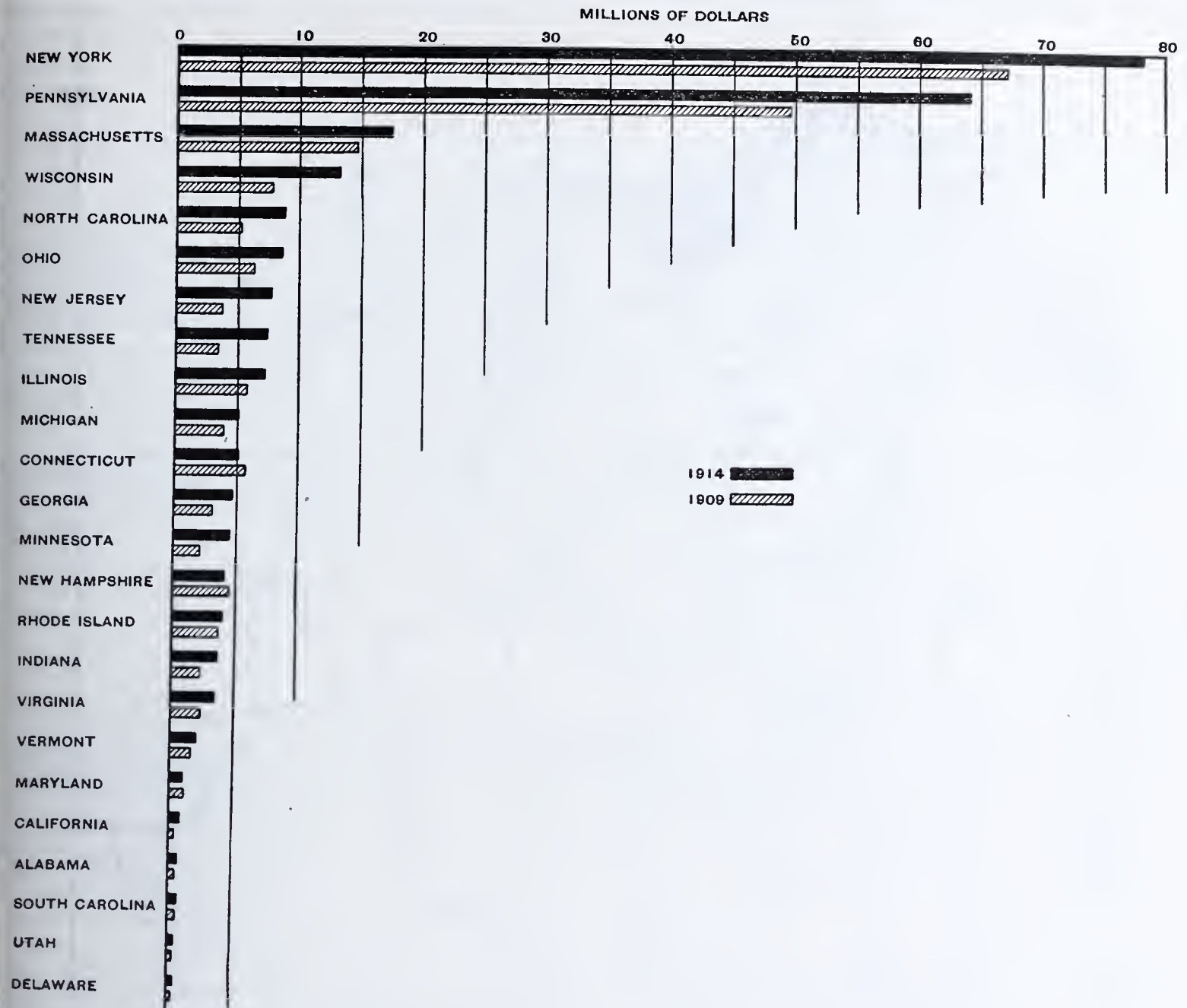
The center of the production of hosiery and knit goods is in the Middle Atlantic states, which reported, in 1914, 64.3 per cent of the total number of establishments, 56.6 per cent of the total wage earners, and 58 per cent of the total value of products for the United States. Although Pennsylvania ranked first among the states in 1914 and in 1909 in the number of establishments and in the average number of wage earners, New York showed a much greater value of products.

New England occupies a much less important place in the manufacture of hosiery and knit goods than it does in cotton and wool manufacture. The 161 knitting mills in the New England states employed in 1914 only 13.9 per cent of the total wage earners and

reported only 12.9 per cent of the total value of products for the entire industry. The cotton mills of that section, on the other hand, employed 49.6 per cent of the total wage earners and reported 48.1 per cent of the total value of products for cotton manufactures in the United States; wool manufacturing establishments in New England employed 57.9 per cent of the wage earners and reported 57 per cent of the value of products for wool manufactures in the entire United States.

The diagram on the opposite page shows graphically the value of products reported for the most important states in the industry in 1914 and 1909, while the map on the following page shows the distribution of establishments in 1914, by states. Twenty-four counties (considering Greater New York as one county) reported more than 10 establishments each. They are indicated on the map by means of a square.

HOSIERY AND KNIT GOODS—VALUE OF PRODUCTS FOR THE MOST IMPORTANT STATES: 1914 AND 1909.



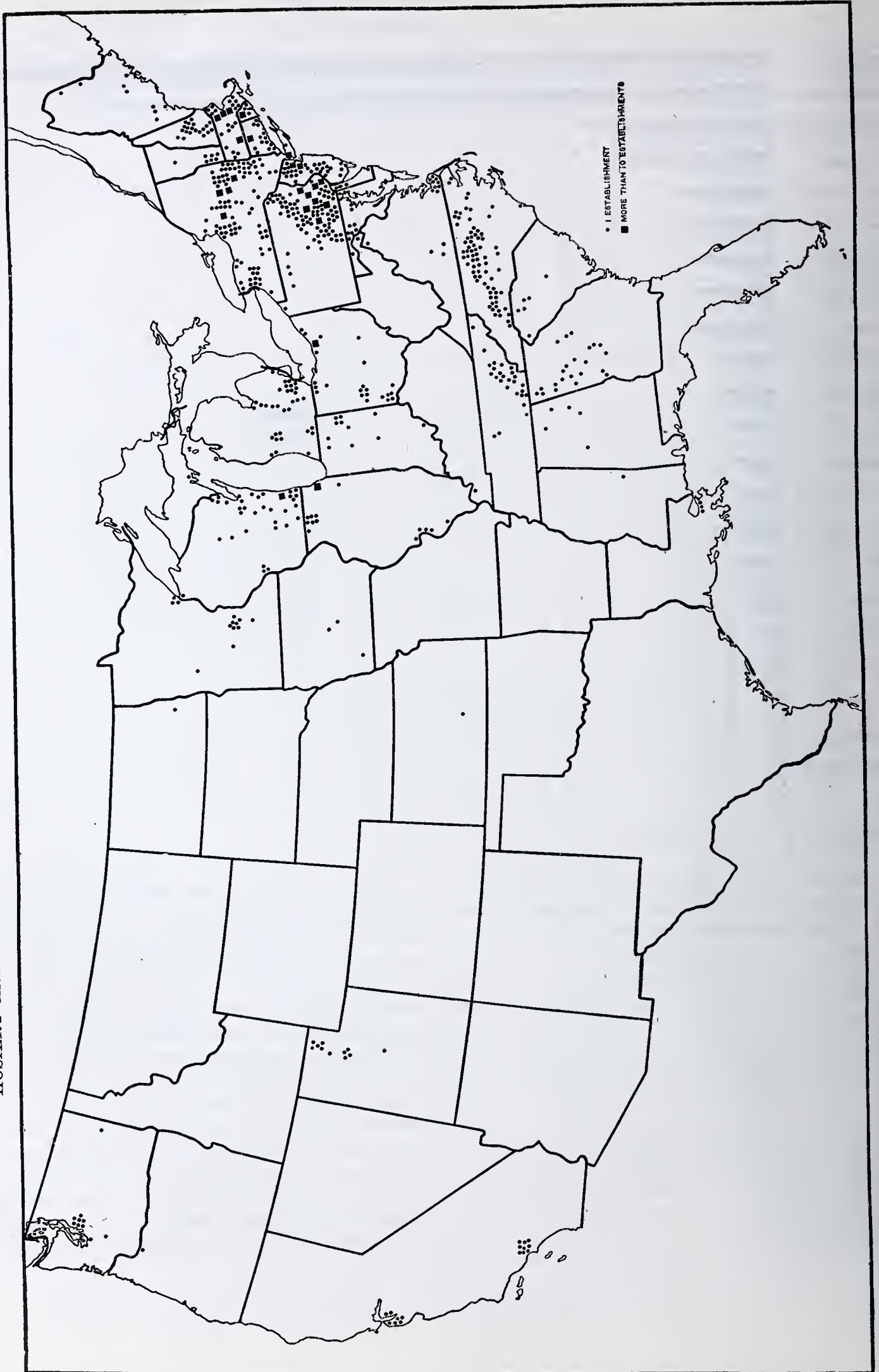
The counties having more than 10 establishments shown as a square on the map), together with the number of establishments in each county, are:

MASSACHUSETTS:		PENNSYLVANIA:	
Middlesex County.....	17	Philadelphia.....	200
Suffolk County.....	11	Montgomery County.....	14
Norfolk County.....	18	Northampton County.....	12
Hampden County.....	12	Lehigh County.....	17
RHODE ISLAND:		Bucks County.....	93
Providence County.....	20	Lancaster County.....	16
CONNECTICUT:		Schuylkill County.....	47
Hartford County.....	12	Dauphin County.....	13
NEW YORK:		OHIO:	
Greater New York.....	303	Cuyahoga County.....	16
Albany County.....	19	ILLINOIS:	
Montgomery County.....	22	Cook County.....	33
Fulton County.....	11	WISCONSIN:	
Oneida County.....	35	Milwaukee County.....	36
NEW JERSEY:			
Hudson County.....	18		
Essex County.....	15		

Persons engaged in the industry.—Table 3 shows, for 1914 and 1909, the number of persons engaged in the industry, distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

The average number of persons engaged in the industry in 1914 was 159,673, of whom 150,520, or 94.3 per cent, were wage earners; 3,966, or 2.5 per cent, proprietors and officials; and 5,187, or 3.2 per cent, clerks and other subordinate salaried employees. These proportions vary only slightly from those of 1909. Females greatly exceeded males in the total persons reported for all classes, owing to their preponderance among wage earners. More than two-thirds of the

HOSIERY AND KNIT GOODS—DISTRIBUTION OF ESTABLISHMENTS, BY STATES: 1914.



wage earners employed at each of the last two censuses were women and children. Clerks and other subordinate salaried employees show the next highest

proportion of females, 39.8 per cent in 1914 and 32.4 per cent in 1909. The number of children employed in 1914 was 1,519, or 14.5 per cent, less than in 1909.

Table 3	CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE INDUSTRY.						CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE INDUSTRY.					
			Total.	Male.	Fe- male.	Per cent of total.		Total.			Male.	Fe- male.	Per cent of total.			
						Male.	Fe- male						Male.	Fe- male		
All classes.....	1914	159,673	51,335	108,338	32.2	67.8	Clerks and other subordinate salaried employees.....	1914	5,187	3,125	2,062	60.2	39.8			
	1909	136,130	43,950	92,180	32.3	67.7									1909	3,547	2,398	1,149	67.6	32.4
Proprietors and officials.....	1914	3,966	3,782	184	95.4	4.6	Wage earners (average number).....	1914	150,520	44,428	106,092	29.5	70.5			
	1909	3,308	3,125	183	94.5	5.5									1909	129,275	38,427	90,848	29.7	70.3
Proprietors and firm members.....	1914	1,298	1,238	60	95.4	4.6	16 years of age and over.....	1914	141,533	41,874	99,659	29.6	70.4			
	1909	1,134	1,067	67	94.1	5.9									1909	118,769	35,383	83,386	29.8	70.2
Salaried officers of corporations.....	1914	1,050	1,019	31	97.0	3.0	Under 16 years of age.....	1914	8,987	2,554	6,433	28.4	71.6			
	1909	799	781	18	97.7	2.3									1909	10,506	3,044	7,462	29.0	71.0
Superintendents and managers.....	1914	1,618	1,525	93	94.3	5.7										
	1909	1,375	1,277	98	92.9	7.1										

Table 4 gives, for the several classes of persons engaged in the industry, the percentages of increase from 1909 to 1914 and the per cent distribution at the two censuses.

CLASS.	PERSONS ENGAGED IN THE INDUSTRY.								
	Per cent of increase, ¹ 1909-1914.			Per cent distribution.					
	Total.	Male.	Female.	Total.		Male.		Female.	
				1914	1909	1914	1909	1914	1909
All classes.....	17.3	16.8	17.5	100.0	100.0	100.0	100.0	100.0	100.0
Proprietors and officials.....	19.9	21.0	0.5	2.5	2.4	7.4	7.1	0.2	0.2
Proprietors and firm members.....	14.5	16.0	.....	0.8	0.8	2.4	2.4	0.1	0.1
Salaried officers of corporations.....	31.4	30.5	.....	0.7	0.6	2.0	1.8	(²)	(²)
Superintendents and managers.....	17.7	19.4	.....	1.0	1.0	3.0	2.9	0.1	0.1
Clerks and other subordinate salaried employees.....	46.2	30.3	79.5	3.2	2.6	6.1	5.5	1.9	1.2
Wage earners (average number).....	16.4	15.6	16.8	94.3	95.0	86.5	87.4	97.9	98.6
16 years of age and over.....	19.2	18.4	19.5	88.6	87.2	81.6	80.5	92.0	90.5
Under 16 years of age.....	-14.5	-16.1	-13.8	5.6	7.7	5.0	6.9	5.9	8.1

¹ A minus sign (-) denotes decrease; percentages are omitted where base is less than 100.

² Less than one-tenth of 1 per cent.

All classes, except wage earners under 16 years of age, increased substantially from 1909 to 1914. Clerks and other subordinate salaried employees show the highest percentage of gain (46.2 per cent) and represent a slightly increased proportion of the total number of persons employed in the industry. Wage earners increased 16.4 per cent during the last five years, as compared with 24.2 per cent from 1904 to 1909. In both of these classes the rate of increase was higher for females than for males.

In order to compare the distribution of persons engaged in the industry in 1914 with that shown at the census of 1904, it is necessary to use the classification employed at the earlier census (See "Explanation of terms.") Table 5 makes this comparison according to occupational status.

There was practically no change in the per cent distribution among the three classes; the salaried employees, however, increased more rapidly from census to census than did the other classes. For all persons engaged in the industry, the increase from 1904 to 1909 was considerably greater than that from 1909 to 1914. This larger increase during the earlier

period, however, was entirely among the wage earners, the rate of increase among the other classes being greater during the later five-year period.

CLASS.	PERSONS ENGAGED IN THE INDUSTRY.							
	Number.			Per cent distribution.			Per cent of increase.	
	1914	1909	1904	1914	1909	1904	1909-1914	1904-1909
Total.....	159,673	136,130	109,489	100.0	100.0	100.0	17.3	24.3
Proprietors and firm members.....	1,298	1,134	1,067	0.8	0.8	1.0	14.5	6.3
Salaried employees.....	7,855	5,721	4,330	4.9	4.2	4.0	37.3	32.1
Wage earners (average).....	150,520	129,275	104,092	94.3	95.0	95.1	16.4	24.2

Table 6 gives, by states, for 1914 and 1909, the average number of wage earners and the per cent distribution of male and female wage earners 16 years of age and over and of children under 16 years of age.

The average number of wage earners in each state in 1904, as well as in 1909 and 1914, is given in Table 31. The distribution of the average number, by sex and age, is not shown for individual states, but Table 32 gives such a distribution of the number

employed on December 15, 1914, or the nearest representative day.

STATE.	Census year.	WAGE EARNERS.			
		Average number.	Per cent of total.		Under 16 years of age.
			16 years of age and over.		
			Male.	Female.	
United States.....	1914	150,520	27.8	66.2	6.0
	1909	129,275	27.4	64.5	8.1
	1904	103,715	24.3	66.4	9.3
Alabama.....	1914	781	25.9	58.5	15.6
	1909	611	24.2	48.4	27.4
Connecticut.....	1914	2,904	30.1	67.3	2.5
	1909	3,340	30.8	66.1	3.1
Delaware.....	1914	496	12.4	72.2	15.4
	1909	492	16.9	69.6	13.5
Georgia.....	1914	3,468	35.0	56.2	8.8
	1909	2,743	28.8	55.1	16.1
Illinois.....	1914	3,535	31.2	66.5	2.3
	1909	2,913	29.9	63.3	6.8
Indiana.....	1914	2,338	29.4	63.3	7.3
	1909	1,933	26.3	54.4	19.3
Maryland.....	1914	1,077	22.9	73.4	3.7
	1909	1,022	18.8	65.2	16.0
Massachusetts.....	1914	10,635	25.9	72.2	1.9
	1909	9,941	41.6	53.9	4.4
Michigan.....	1914	2,714	24.4	74.1	1.5
	1909	2,545	20.9	76.4	2.7
Minnesota.....	1914	2,088	14.5	85.5	.....
	1909	1,052	15.6	81.8	2.6
New Hampshire.....	1914	3,328	30.5	66.8	2.7
	1909	3,129	31.3	66.7	1.9
New Jersey.....	1914	4,025	37.3	59.4	3.3
	1909	2,506	37.2	58.0	4.9
New York.....	1914	40,095	34.2	63.8	2.0
	1909	35,950	34.6	63.6	1.8
North Carolina.....	1914	7,787	30.8	52.4	16.8
	1909	5,151	22.5	49.7	22.7
Ohio.....	1914	3,411	22.9	76.4	0.7
	1909	3,149	16.5	76.5	7.0
Pennsylvania.....	1914	41,130	21.0	69.5	9.4
	1909	38,206	19.3	69.5	11.2
Rhode Island.....	1914	2,030	18.9	75.4	5.7
	1909	1,774	19.9	73.1	7.0
South Carolina.....	1914	771	34.2	44.9	20.9
	1909	839	35.6	45.6	18.7
Tennessee.....	1914	5,690	33.1	58.6	8.3
	1909	3,117	25.8	57.6	16.6
Vermont.....	1914	963	36.0	63.6	0.4
	1909	946	34.9	64.6	0.5
Virginia.....	1914	2,272	34.8	53.9	11.3
	1909	1,715	32.8	54.3	12.9
Wisconsin.....	1914	6,244	21.8	72.6	5.6
	1909	4,282	17.7	71.7	10.6

The mills of Pennsylvania and New York gave employment to more than one-half of the wage earners engaged in the industry in 1914. Massachusetts, the third state in respect to wage earners, employed 15.3 per cent of the remainder. Women constituted more than five-sixths of the total wage earners in three states—California, Minnesota, and Utah—and in Ohio and Rhode Island they constituted more than three-fourths of the total. Massachusetts showed a pronounced tendency to replace men with women, reporting an increase for the five-year period of 2,328

females, or 42 per cent, and a decrease of 1,462 males or 34.1 per cent.

Pennsylvania employed the largest number of children, 3,950, and North Carolina the next largest, 1,380 in both these states the number employed in 1914 was smaller than in 1909. Of all states shown in the table South Carolina reported the highest percentage (20.9 per cent) of children under 16 years of age. In 18 of the 24 states shown in the table, the percentage of children under 16 years of age was smaller in 1914 than in 1909, that for the United States falling from 8.1 per cent in 1909 to 6 per cent in 1914.

Wage earners, classified according to nature of employment.—Table 7 gives, for the industry, the total number of wage earners employed as spinners, knitters, and finishers, respectively, in 1914, 1909, and 1904, classified according to age and sex, with similar statistics for New York and Pennsylvania, the leading states in the industry, for 1914 and 1909. The figures are not strictly comparable, owing to the fact that those for 1904 are the computed averages for the entire year, while those for 1914 and 1909 are the numbers reported for December 15, or the nearest representative day. The difference between the number of wage earners on this day and the average number for the year is, however, but a small percentage of the total both in 1909 and in 1914, and since there is little variation from month to month in the proportion of the different classes of employees, the figures representing the per cent distribution in 1904 may be taken as fairly comparable with those for the other years.

CLASS.	Census year.	WAGE EARNERS IN THE INDUSTRY. ¹					
		Total.	16 years of age and over.		Under 16 years of age.		
			Male.	Female.	Male.	Female.	
United States, total.....	1914	153,438	42,693	101,586	2,602	6,553	6,553
	1909	136,713	37,419	88,183	3,219	7,891	7,891
	1904	103,715	25,167	68,867	9,681	.....	.....
Spinners.....	1914	3,657	2,610	955	47	4	4
	1909	3,133	2,078	839	116	10	10
	1904	2,909	2,011	662	236	.....	.....
Knitters.....	1914	36,764	12,228	21,640	806	2,093	2,093
	1909	36,193	9,994	22,973	829	2,391	2,391
	1904	28,697	7,783	18,012	2,902	.....	.....
Finishers.....	1914	61,459	9,462	48,642	1,142	2,211	2,211
	1909	53,818	6,991	43,627	857	2,341	2,341
	1904	40,362	4,302	33,740	2,320	.....	.....
All other.....	1914	51,558	18,393	30,349	607	2,201	2,201
	1909	43,569	18,356	20,744	1,417	3,051	3,051
	1904	31,747	11,071	16,453	4,223	.....	.....
Per cent of total:							
Spinners.....	1914	2.4	6.1	0.9	1.8	0.1	0.1
	1909	2.3	5.6	1.0	3.6	1.1	1.1
	1904	2.8	8.0	1.0	2.4	.....	.....
Knitters.....	1914	24.0	28.6	21.3	31.0	31.0	31.0
	1909	26.5	26.7	26.1	25.8	30.0	30.0
	1904	27.7	30.9	26.2	30.0	.....	.....
Finishers.....	1914	40.0	22.2	47.9	43.9	33.0	33.0
	1909	39.4	18.7	49.5	26.6	29.0	29.0
	1904	38.9	17.1	49.0	24.0	.....	.....
All other.....	1914	33.6	43.1	29.9	23.3	33.0	33.0
	1909	31.9	49.1	23.5	44.0	35.0	35.0
	1904	30.6	44.0	23.9	43.6	.....	.....

¹ For 1914 and 1909 the figures are those reported for December 15, or the nearest representative day; for 1904 the average number for the year is given.

² Not including the few operatives of this class in establishments using hand machines, for which figures are not available.

Table 7—Continued.

CLASS.	Cen- sus year.	WAGE EARNERS IN THE INDUSTRY.				
		Total.	16 years of age and over.		Under 16 years of age.	
			Male.	Female.	Male.	Fe- male.
New York, total.....	1914	41,064	14,060	26,200	140	664
	1909	38,419	13,289	24,424	165	541
Spinners.....	1914	2,015	1,616	390	4	5
	1909	1,288	1,060	222	3	3
Knitters.....	1914	4,220	3,331	867	13	9
	1909	4,087	2,800	1,246	9	32
Finishers.....	1914	18,310	1,659	16,392	76	183
	1909	18,879	1,500	17,102	50	227
All other.....	1914	16,519	7,454	8,551	47	467
	1909	14,165	7,929	5,854	103	279
Per cent of total:						
Spinners.....	1914	4.9	11.5	1.5	2.9	0.8
	1909	3.4	8.0	0.9	1.8	0.6
Knitters.....	1914	10.3	23.7	3.3	9.3	1.4
	1909	10.6	21.1	5.1	5.5	5.9
Finishers.....	1914	44.6	11.8	62.6	54.3	27.6
	1909	49.1	11.3	70.0	30.3	42.0
All other.....	1914	40.2	53.0	32.6	33.6	70.3
	1909	36.9	59.7	24.0	62.4	51.6
Pennsylvania, total.....	1914	41,832	8,801	29,081	930	3,020
	1909	40,326	7,766	28,045	1,124	3,391
Spinners.....	1914	89	68	19	2	.....
	1909	357	236	81	27	13
Knitters.....	1914	14,648	3,268	10,155	176	1,049
	1909	16,272	2,897	11,817	338	1,220
Finishers.....	1914	14,802	2,523	10,946	346	987
	1909	13,387	2,365	9,609	381	1,032
All other.....	1914	12,293	2,942	7,961	406	984
	1909	10,310	2,268	6,538	378	1,126
Per cent of total:						
Spinners.....	1914	0.2	0.8	0.1	0.2	.....
	1909	0.9	3.0	0.3	2.4	0.4
Knitters.....	1914	35.0	37.1	34.9	18.9	34.7
	1909	40.4	37.3	42.1	30.1	36.0
Finishers.....	1914	35.4	28.7	37.6	37.2	32.7
	1909	33.2	30.5	34.3	33.9	30.4
All other.....	1914	29.4	33.4	27.4	43.7	32.6
	1909	25.6	29.2	23.3	33.6	33.2

In 1914 finishers formed 40 per cent of the total, knitters 24 per cent, and spinners 2.4 per cent. Each of these three classes shows a substantial increase during the decade, the increase in finishers being considerably greater than in knitters. In Pennsylvania the principal product of this industry consisted of hosiery, while in New York the product was more diversified, consisting largely of shirts and drawers, sweaters, etc. This is indicated by the difference in the distribution of the wage earners, knitters forming 10.3 per cent and finishers 44.6 per cent of the total in New York, while in Pennsylvania 35 per cent of the total were knitters and 35.4 per cent finishers. In New York there were 2,015 spinners, representing 4.9 per cent of the total wage earners, but in Pennsylvania where yarn was purchased for material in practically all the knitting mills, spinners numbered only 89, or two-tenths of 1 per cent of the total.

In Table 8 is given, for the United States as a whole, for 1914, 1909, and 1904, and for New York and Pennsylvania, for 1914 and 1909, the per cent

distribution of men, women, and children, respectively, in each of the four classes for which the numbers are presented in Table 7. Among spinners, men predominated, but among knitters, finishers, and other employees, women greatly exceeded the men.

Table 8

CLASS.	Cen- sus year.	PER CENT DISTRIBUTION OF WAGE EARNERS.			
		16 years of age and over.		Under 16 years of age.	
		Male.	Fe- male.	Male.	Fe- male.
United States.....	1914	27.8	66.2	1.7	4.3
	1909	27.4	64.5	2.4	5.8
	1904	24.3	66.4	9.3	.....
Spinners.....	1914	71.4	26.1	1.3	1.2
	1909	66.3	26.8	3.7	3.2
	1904	69.1	22.8	8.1	.....
Knitters.....	1914	33.3	58.9	2.2	5.7
	1909	27.6	63.5	2.3	6.6
	1904	27.1	62.8	10.1	.....
Finishers.....	1914	15.4	79.1	1.9	3.6
	1909	13.0	81.1	1.6	4.4
	1904	10.7	83.6	5.8	.....
All other.....	1914	35.7	58.9	1.2	4.3
	1909	42.1	47.6	3.3	7.0
	1904	34.9	51.8	13.3	.....
New York.....	1914	34.2	63.8	0.3	1.6
	1909	34.6	63.6	0.4	1.4
Spinners.....	1914	80.2	19.4	0.2	0.2
	1909	82.3	17.2	0.2	0.2
Knitters.....	1914	78.9	20.5	0.3	0.2
	1909	68.5	30.5	0.2	0.8
Finishers.....	1914	9.1	89.5	0.4	1.0
	1909	7.9	90.6	0.3	1.2
All other.....	1914	45.1	51.8	0.3	2.8
	1909	56.0	41.3	0.7	2.0
Pennsylvania.....	1914	21.0	69.5	2.2	7.2
	1909	19.3	69.5	2.8	8.4
Spinners.....	1914	76.4	21.3	2.2	.....
	1909	66.1	22.7	7.6	3.6
Knitters.....	1914	22.3	69.3	1.2	7.2
	1909	17.8	72.6	2.1	7.5
Finishers.....	1914	17.0	73.9	2.3	6.7
	1909	17.7	71.8	2.8	7.7
All other.....	1914	23.9	64.8	3.3	8.0
	1909	22.0	63.4	3.7	10.9

Wage earners employed, by months.—The following table gives, for the industry, the total number of wage earners employed on the 15th of each month, or the nearest representative day, for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

There was comparatively little variation in the number of wage earners employed in the industry during the different seasons of the year. In 1914 the greatest numbers were employed during the late winter and spring, but in the two preceding census years the largest numbers were employed during the fall and early winter. The percentages for 1904 indicate greater regularity of employment than is shown for either of the other census years.

Table 9

MONTH.	WAGE EARNERS IN THE INDUSTRY.					
	Number. ¹			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	152,974	123,308	101,212	97.0	91.7	95.3
February.....	155,683	125,181	102,843	98.8	93.0	96.8
March.....	157,636	128,052	104,226	100.0	95.2	98.1
April.....	157,054	129,317	104,470	99.6	96.1	98.4
May.....	155,273	129,270	104,480	98.5	96.1	98.4
June.....	153,071	128,899	104,522	97.1	95.8	98.4
July.....	148,572	127,845	102,961	94.2	95.0	96.9
August.....	142,779	128,231	103,387	90.6	95.3	97.3
September.....	143,747	130,329	104,786	91.2	96.9	98.7
October.....	147,513	132,997	106,203	93.6	98.8	100.0
November.....	146,356	134,540	105,825	92.8	100.0	99.6
December.....	145,582	133,340	104,189	92.4	99.1	98.1

¹ The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

Table 10 gives the total average number of wage earners employed during 1914, together with the total number employed on the 15th of each month, or the nearest representative day, for 21 states in which an average of 500 or more wage earners were employed during the year.

The degree of regularity in employment, referred to in Table 10, varied in the different states. In Vermont the minimum number employed during the year formed only 72.9 per cent of the maximum; in Maryland, 73 per cent; and in New York, 82.5 per cent. The least variation in the number employed is shown in Michigan, where the minimum formed 92.5 per cent of the maximum.

Table 10

Table 10	WAGE EARNERS: 1914. [Month of maximum employment for each state is indicated by boldface figures and that of minimum by <i>italic</i> figures.]														Per cent minimum is of maximum
	STATE.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States.....	150,520	152,974	155,683	157,636	157,054	155,273	153,071	148,572	<i>142,779</i>	143,747	147,513	146,356	145,582	90.	
Alabama.....	781	<i>742</i>	743	845	787	810	820	809	782	758	747	747	782	87.	
Connecticut.....	2,904	2,972	2,983	2,996	2,981	2,939	2,942	2,781	<i>2,686</i>	2,874	2,896	2,912	2,886	89.	
Georgia.....	3,468	3,581	3,530	3,525	3,484	3,446	3,500	3,480	3,504	3,420	3,487	3,422	<i>3,237</i>	90.	
Illinois.....	3,535	3,629	3,644	3,639	3,642	3,582	3,543	3,400	<i>3,308</i>	3,350	3,545	3,482	3,656	90.	
Indiana.....	2,338	2,232	2,313	2,388	2,381	2,392	2,391	2,385	2,370	2,359	2,335	2,309	<i>2,201</i>	92.	
Maryland.....	1,077	1,152	1,166	1,179	1,193	1,216	1,241	1,024	986	966	939	956	<i>906</i>	73.	
Massachusetts.....	10,635	11,056	11,149	11,020	10,945	10,923	10,838	10,561	10,300	<i>9,901</i>	10,392	10,386	10,149	88.	
Michigan.....	2,714	<i>2,616</i>	2,664	2,679	2,688	2,747	2,750	2,802	2,651	2,770	2,828	2,706	2,667	92.	
Minnesota.....	2,088	<i>1,974</i>	2,052	2,150	2,118	2,075	2,146	2,057	2,110	2,114	2,111	2,058	2,091	91.	
New Hampshire.....	3,328	3,632	3,153	3,590	3,561	3,575	3,469	3,314	3,112	<i>3,079</i>	3,152	3,143	3,156	84.	
New Jersey.....	4,025	<i>3,873</i>	3,881	3,936	4,020	4,022	3,997	4,027	4,071	4,110	4,210	4,130	4,023	92.	
New York.....	40,095	41,495	42,606	43,107	42,871	42,009	40,851	39,530	<i>35,580</i>	35,982	39,055	39,200	38,854	82.	
North Carolina.....	7,787	7,863	7,912	8,095	8,056	8,021	7,951	7,765	7,709	7,749	<i>7,276</i>	7,445	7,602	89.	
Ohio.....	3,411	3,685	3,646	3,709	3,646	3,567	3,502	3,400	3,179	3,166	3,261	<i>3,081</i>	3,090	83.	
Pennsylvania.....	41,130	41,026	42,510	42,885	42,685	42,380	41,457	40,039	<i>39,548</i>	40,437	40,511	40,027	40,055	92.	
Rhode Island.....	2,030	2,109	2,218	2,137	2,172	2,069	2,041	1,968	1,943	1,918	1,953	1,938	<i>1,894</i>	85.	
South Carolina.....	771	779	750	767	<i>732</i>	741	761	762	749	772	770	822	847	86.	
Tennessee.....	5,690	5,861	5,869	6,052	6,091	5,964	5,964	5,674	5,588	5,439	5,334	5,243	<i>5,201</i>	85.	
Vermont.....	963	1,036	1,051	1,055	1,080	1,090	1,082	1,027	894	<i>795</i>	812	818	811	72.	
Virginia.....	2,272	2,258	2,305	2,354	2,361	2,253	2,344	2,290	<i>2,160</i>	2,178	2,336	2,198	2,237	91.	
Wisconsin.....	6,244	6,373	6,523	6,430	6,435	6,290	6,218	6,182	6,197	6,069	6,174	<i>6,016</i>	6,021	92.	

Prevailing hours of labor.—In Table 11 the average number of wage earners reported for 1914 and 1909, for the industry, has been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or smaller number of hours.

The figures in the table indicate a tendency toward shorter hours of labor in the industry. In 1914, 65.8 per cent of the wage earners were employed in mills operating 54 hours or less per week, as compared with 7 per cent in 1909. This change is due to the passage by many states, of laws affecting the employment of women, the majority of wage earners in this industry being women. Of the several groups shown in Table 11, the largest was made up of wage earners in establishments where the 54-hour week prevailed, the 87,549 wage earners working such hours constituting 58.2 per cent of the total. In 1909 the greatest number (65,422, or 50.6 per cent) worked between 54 and 60 hours per week. In Pennsylvania, New York, and

Massachusetts there was a marked reduction in the prevailing hours of labor, due to the passage in 1913 of laws which limited the hours of labor for women to 54 per week. In New York, three-fourths of the wage earners in 1914 were employed in establishments operating 54 hours per week, whereas in 1909 about the same proportion were in establishments operating 60 hours or more per week. In Pennsylvania the shortening of the working-day was even more pronounced, as more than four-fifths of the wage earners in 1914 were reported by establishments where the 54-hour week prevailed, as compared with a higher proportion in 1909 working from 54 to 72 hours. In 5 other states, Massachusetts, Michigan, Minnesota, Ohio, and Rhode Island, the prevailing hours of labor in 1914 were 54 per week and in 10 states the most general working hours were between 54 and 60 per week. In only 4 states, Alabama, Georgia, North Carolina, and South Carolina, did the largest number of wage earners work as much as 60 hours per week, and in these states there is some evidence of a reduction in working hours.

Table 11

Table 11		AVERAGE NUMBER OF WAGE EARNERS.							AVERAGE NUMBER OF WAGE EARNERS.								
STATE.	Cen- sus year.	Total.	In establishments where the prevailing hours of labor per week were—					STATE.	Cen- sus year.	Total.	In establishments where the prevailing hours of labor per week were—						
			48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.				Be- tween 60 and 72.	48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Be- tween 60 and 72.
United States.....	1914	150,520	3,673	7,860	87,549	34,260	16,515	663	New Jersey.....	1914	4,025	73	171	363	3,328	90	.....
	1909	129,275	908	3,331	4,753	65,422	49,934	4,927		1909	2,506	24	109	107	2,140	126	.....
Alabama.....	1914	781	.....	.....	.....	174	607	.....	New York.....	1914	40,095	209	3,827	30,382	2,145	3,127	405
	1909	611	.....	.....	.....	.....	493	118		1909	35,950	427	1,312	454	7,945	24,934	878
Connecticut.....	1914	2,904	323	396	541	1,644	.....	.....	North Carolina.....	1914	7,787	.....	.....	6	683	7,080	18
	1909	3,340	2	.....	441	2,622	275	.....		1909	5,151	.....	.....	.....	689	2,524	1,938
Georgia.....	1914	3,468	.....	.....	.....	896	2,346	226	Ohio.....	1914	3,411	64	205	3,035	107	.....	.....
	1909	2,743	.....	.....	.....	1,120	658	965		1909	3,149	10	45	921	1,019	1,154	.....
Illinois.....	1914	3,535	266	525	511	1,786	447	.....	Pennsylvania.....	1914	41,130	807	1,533	34,353	4,073	364	.....
	1909	2,913	83	553	78	1,320	879	.....		1909	38,206	275	381	496	24,508	12,472	74
Indiana.....	1914	2,338	.....	10	.....	2,328	.....	.....	Rhode Island.....	1914	2,030	305	10	1,519	196	.....	.....
	1909	1,933	.....	.....	.....	1,690	243	.....		1909	1,774	.....	1	.....	1,702	71	.....
Maryland.....	1914	1,077	.....	12	.....	1,001	64	.....	South Carolina.....	1914	771	.....	.....	.....	120	651	.....
	1909	1,022	.....	.....	1	41	980	.....		1909	839	.....	.....	.....	.....	839	.....
Massachusetts.....	1914	10,635	9	496	9,702	409	19	.....	Tennessee.....	1914	5,690	.....	.....	.....	4,994	696	.....
	1909	9,941	12	245	86	9,598	.....	.....		1909	3,117	.....	.....	.....	840	1,323	954
Michigan.....	1914	2,714	26	201	2,315	172	.....	.....	Vermont.....	1914	963	.....	.....	.....	702	261	.....
	1909	2,545	8	308	807	756	666	.....		1909	946	.....	.....	.....	.....	946	.....
Minnesota.....	1914	2,088	35	32	2,021	.....	.....	.....	Virginia.....	1914	2,272	.....	.....	172	1,778	308	14
	1909	1,052	.....	.....	48	866	138	.....		1909	1,715	.....	.....	.....	1,241	474	.....
New Hampshire.....	1914	3,328	.....	3	661	2,664	.....	.....	Wisconsin.....	1914	6,244	1,085	300	1,660	3,160	39	.....
	1909	3,129	.....	.....	6	3,123	.....	.....		1909	4,282	24	96	920	2,876	366	.....

Character of ownership.—Table 12 presents statistics concerning the character of ownership, or legal organization, of establishments in the hosiery and knit-goods

industry, for 1914 and 1909, and for 1914 only, for 15 leading states.

Table 12

Table 12 STATE.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.						VALUE OF PRODUCTS.							
				Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.		
	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All others.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.
United States: 1914..... 1909.....	519 443	785 651	318 280	150,520 129,275	13,907 16,453	120,697 93,174	15,916 19,648	9.2 12.7	80.2 72.1	10.6 15.2	\$258,912,903 200,143,527	\$23,319,057 24,852,520	\$208,404,357 142,021,832	\$27,189,489 33,269,175	9.0 12.4	80.5 71.0	10.5 16.6
Connecticut.....	3	18	4	2,904		2,849	155		98.1	1.9	5,221,683		5,082,303	139,380		97.3	2.7
Illinois.....	16	27	3	3,535	190	3,345		5.4	94.6		7,367,235	359,873	7,007,362		4.9	95.1	
Massachusetts.....	23	44	10	10,635	254	9,601	780	2.4	90.3	7.3	17,419,077	582,786	14,312,311	2,523,980	3.3	82.2	14.5
Michigan.....	5	26	3	2,714	116	2,598		4.3	95.7		5,232,985	272,894	4,960,091		5.2	94.8	
Minnesota.....	5	6	2	2,088	59	2,029		2.8	97.2		4,665,325	119,455	4,545,870		2.6	97.4	
New Hampshire.....	3	12	5	3,328	170	2,437	721	5.1	73.2	21.7	4,282,739	240,166	3,296,657	745,916	5.6	77.0	17.4
New Jersey.....	24	29	9	4,025	444	3,391	190	11.0	84.2	4.7	7,849,556	783,840	6,680,566	385,150	10.0	85.1	4.9
New York.....	198	176	109	40,095	3,347	31,610	5,138	8.3	78.8	12.8	78,229,235	6,874,623	62,761,789	8,592,823	8.8	80.2	11.0
North Carolina.....	10	57	7	7,787	360	7,241	186	4.6	93.0	2.4	8,892,362	296,806	8,407,655	187,901	3.3	94.6	2.1
Ohio.....	5	30	3	3,411	171	2,927	313	5.0	85.8	9.2	8,654,103	401,200	7,303,354	949,549	4.6	84.4	11.0
Pennsylvania.....	183	179	136	41,130	7,234	26,718	7,178	17.6	65.0	17.5	64,153,449	10,955,854	41,994,741	11,202,854	17.1	65.5	17.5
Rhode Island.....	4	16	3	2,030	438	1,399	193	21.6	68.9	9.5	4,191,841	577,019	3,267,305	347,517	13.8	77.9	8.3
Vermont.....	1	4	2	963		699	1264		72.6	27.4	2,164,897		1,562,030	1,602,867		72.2	27.8
Virginia.....	3	9	1	2,272	972	1,300		42.8	57.2		3,515,916	1,852,639	1,663,277		52.7	47.3	
Wisconsin.....	21	41	6	6,244	55	6,070	119	0.9	97.2	1.9	13,292,305	101,369	12,962,360	228,576	0.8	97.5	1.7

¹ Includes the group "individuals."

² Includes the group "all others."

Table 12 indicates the increasing importance of establishments under corporate control. The number of mills under each class of ownership increased from 1909 to 1914, but the number of wage earners employed in establishments under individual or other ownership declined both actually and relatively during the five-year period, while the value of products and the value added by manufacture showed a similar decline. On the other hand, corporations

representing nearly one-half the total establishments in 1914, employed more than four-fifths of the total number of wage earners and reported an even larger proportion of the total value of products, as compared with less than three-fourths of both wage earners and value of products in 1909. Corporations reported more than 95 per cent of the wage earners and the value of products for the industry in Connecticut, Minnesota, and Wisconsin.

In the remainder of the states, except Virginia, more than one-half of the wage earners and value of products was reported by mills under corporate control.

New York and Pennsylvania were the only states which reported a greater number of establishments under individual than under corporate ownership. In all the other states shown, except Minnesota and New Jersey, the number of establishments under corporate ownership was greater than the number of those under both other classes combined.

Size of establishments.—The tendency of the industry to become concentrated in large establishments is indicated by the statistics given in Table 13. Owing to higher cost of material and the increased value of the product, it is possible that an establishment of one group in 1909 may have passed to a higher one in 1914 without any corresponding increase in the quantity of its output.

Nearly twice as many establishments reported products valued at \$1,000,000 or over in 1914 as in 1909, and the number of wage earners employed in such establishments almost doubled, while the value of their products more than doubled during the five-year period.

Establishments reporting products valued at from \$100,000 to \$1,000,000 constituted almost one-third of the total number and reported more than one-half of the wage earners and of the value of the products for the entire industry. Although this group was the most important in 1914, it was relatively of less importance than five years before.

Establishments having products valued at from \$20,000 to \$100,000 constituted the largest group numerically but showed an actual decrease in wage earners and only a small increase in value of products. Although establishments with products of less than

\$20,000 constituted almost one-third of the total number, they employed only 2.2 per cent of the wage earners and reported only 1.7 per cent of the total value of the products.

The average value of the output per establishment increased from \$145,665 in 1909 to \$159,626 in 1914 and the average value added by manufacture from \$65,431 to \$69,190. The average number of wage earners decreased from 94.1 in 1909 to 92.8 in 1914.

Table 13

VALUE OF PRODUCT.	Census year.	Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes.....	1914 1909	1,622 1,374	150,520 129,275	\$258,912,903 200,143,527	\$112,225,489 89,902,411
Less than \$5,000.....	1914 1909	194 129	395 296	476,663 319,050	283,716 161,111
\$5,000 to \$20,000.....	1914 1909	320 221	2,928 2,418	3,831,526 2,627,769	1,851,979 1,340,981
\$20,000 to \$100,000.....	1914 1909	553 534	18,901 20,712	28,146,728 27,241,283	12,136,581 12,209,811
\$100,000 to \$1,000,000.....	1914 1909	508 465	82,751 82,160	142,504,472 132,829,875	59,256,581 57,982,411
\$1,000,000 and over.....	1914 1909	47 25	45,545 23,689	83,953,514 37,125,550	38,696,601 18,208,001
Per cent distribution:					
Less than \$5,000.....	1914 1909	12.0 9.4	0.3 0.2	0.2 0.2	0.0 0.0
\$5,000 to \$20,000.....	1914 1909	19.7 16.1	1.9 1.9	1.5 1.3	1.1 1.1
\$20,000 to \$100,000.....	1914 1909	34.1 38.9	12.6 16.0	10.9 13.6	10.0 13.0
\$100,000 to \$1,000,000.....	1914 1909	31.3 33.8	55.0 63.6	55.0 66.4	52.0 64.0
\$1,000,000 and over.....	1914 1909	2.9 1.8	30.3 18.3	32.4 18.5	34.0 20.0

Table 14 shows the size of establishments in 1914 and 1909, as measured by the number of wage earners employed, for the industry as a whole, and for the 2 leading states.

Table 14

STATE.	Census year.	TOTAL.		ESTABLISHMENTS EMPLOYING—																	
				No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
		Establishments.	Wage earners (average number).	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
United States.....	1914 1909	1,622 1,374	150,520 129,275	47 31	295 168	849 479	360 298	4,445 3,907	291 288	9,738 9,780	257 233	19,071 16,840	232 234	36,843 36,105	92 89	31,896 31,954	35 26	25,256 17,669	13 7	22,411 12,511	4 5
Alabama.....	1914 1909	5 6	781 611	—	—	—	—	—	1	38 77	1	87 92	2 3	383 442	1	273	—	—	—	—	—
Connecticut.....	1914 1909	25 21	2,904 3,340	—	4 2	10 6	4 1	65 15	1	26 40	3 2	250 141	9 11	1,186 1,749	4 4	1,367 1,389	—	—	—	—	—
Georgia.....	1914 1909	22 22	3,468 2,743	—	—	—	1	13	4	165 87	7 11	672 752	7 6	1,224 935	1 3	252 969	2	1,142	—	—	—
Illinois.....	1914 1909	46 43	3,535 2,913	4 4	11 11	34 37	8 11	91 144	7 7	212 201	4 2	274 179	8 3	1,207 453	3 5	1,005 1,899	1	712	—	—	—
Indiana.....	1914 1909	11 5	2,338 1,933	1	—	—	2 1	20 12	2 1	64 28	1	80	3 2	422 371	1	275	—	—	1	1,415	—
Maryland.....	1914 1909	10 11	1,077 1,022	1 3	1 2	4 4	1	12	—	—	—	4 1	297 72	2 2	458 288	1 2	306 620	—	—	—	—
Massachusetts.....	1914 1909	77 65	10,635 9,941	11 3	11 12	39 26	13 10	172 116	10 17	310 569	16 10	1,214 749	8 6	1,322 1,017	5 3	1,841 944	1 2	548 1,457	2 2	5,150	—
Michigan.....	1914 1909	34 35	2,714 2,545	—	3 3	8 8	12 12	167 161	7 5	236 165	6 8	415 556	2 5	277 764	4 2	1,611 891	—	—	—	—	—

Table 14—Contd.

Table 14—Contd.		STATE.	Cen- sus year.	ESTABLISHMENTS EMPLOYING—																		
				TOTAL.		No wage earn- ers.	1 to 5 wage earn-ers.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
							Estab- lish- ments.	Wage earn-ers. (average number).	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.	Estab- lish- ments.	Wage earn-ers.
Minnesota.....	1914	13	2,088	1	3	4	5	76	1	33	1	88	1	174					1	1,713		
	1909	10	1,052		1	5	3	36	3	87			2	265			1	659				
New Hampshire.....	1914	20	3,328		3	8	2	34			3	215	8	1,476	3	969	1	626				
	1909	21	3,129	1	2	6	3	32			3	207	7	1,119	4	1,224	1	541				
New Jersey.....	1914	62	4,025		16	44	18	199	16	503	5	354	4	569	1	345	1	850	1	1,161		
	1909	37	2,506		3	8	11	150	14	454	5	365	1	116	2	675	1	738				
New York.....	1914	483	40,095	15	146	454	128	1,381	50	1,683	50	3,652	58	9,198	20	7,482	12	8,912	4	7,333		
	1909	360	35,950	7	44	133	107	1,409	57	1,912	44	3,298	68	10,326	21	8,167	9	6,451	3	4,254		
North Carolina.....	1914	74	7,787		2	2	9	120	27	829	16	1,202	14	2,218	3	967	2	1,326	1	1,123		
	1909	62	5,151		6	23	12	176	9	316	20	1,377	11	1,512	3	840	1	907				
Ohio.....	1914	38	3,411		4	10	6	71	9	305	5	432	11	1,763	3	830						
	1909	39	3,149		10	25	2	29	7	229	9	672	9	1,550	2	644						
Pennsylvania.....	1914	498	41,130	9	42	103	112	1,527	136	4,621	105	7,791	58	8,869	26	9,190	8	5,773	2	3,256		
	1909	464	38,206	7	39	108	90	1,181	137	4,738	95	6,796	62	9,584	25	9,299	8	4,798	1	1,702		
Rhode Island.....	1914	23	2,030		5	15	5	63			4	268	8	1,380	1	304						
	1909	17	1,774		1	1	3	32	3	96	3	191	5	875	2	579						
South Carolina.....	1914	6	771		1	6			1	39	1	87	2	301	1	338						
	1909	7	839				1	19	2	53	1	87	2	286	1	394						
Tennessee.....	1914	26	5,690		1	4			1	47	7	524	10	1,815	4	1,262	3	2,038				
	1909	22	3,117		1	5	3	48	2	70	4	258	9	1,385	2	688	1	663				
Vermont.....	1914	7	963		1	3			1	27	2	141	2	305	1	487						
	1909	8	946		1	5			2	79	3	213	1	151	1	498						
Virginia.....	1914	13	2,272				3	47			1	74	4	526	5	1,625						
	1909	11	1,715						1	21	3	262	5	827	2	605						
Wisconsin.....	1914	68	6,244	4	20	38	13	161	9	345	9	604	7	1,150	2	617	4	3,329				
	1909	61	4,282	5	15	34	13	161	8	307	7	513	9	1,379	3	1,072	1	816				

The large establishments (those employing over 500 wage earners each) numbered 48, or only 3 per cent of the total number of establishments, but employed almost one-third (31.7 per cent) of the total number of wage earners. Of these establishments, 16 were located in New York and 10 in Pennsylvania. In 1909, 14 per cent of the establishments employed more than 100 wage earners, these wage earners representing 23.4 per cent of the total.

The class of establishments which employed from 101 to 250 wage earners was the only one which did not show a larger number of plants in 1914 than in 1909, while those employing from 21 to 50 wage earners and from 251 to 500 were the only ones to show a decrease in wage earners during the five-year period. No wage earners were reported from 47 establishments in 1914. These were small establishments in which the work was done by the proprietors or firm members and their families. In some cases a few wage earners were employed for short periods, but the number was so small and the period of employment so short that in computing the average number, as described in the "Explanation of terms," no wage earners could be shown.

Engines and power.—Table 15 shows, for 1914, 1909, and 1904, for the industry, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

The greater part of the power used in the hosiery and knit-goods industry was steam power; the proportion which such power formed of the total primary power, however, decreased somewhat during the decade. Water power also showed a very slight relative decrease since 1904. The horsepower of electric motors operated by purchased current (rented electric power) increased very rapidly during the decade, representing more than one-fifth of the total primary power in 1914. It should not be assumed that electric motors so operated are rented, however, as they are in most cases owned by the establishments using the power.

The number and horsepower of electric motors used for distributing power by means of current generated in the establishments show a very large increase, the horsepower of such motors being nearly four times as great in 1914 as in 1904.

Table 32 shows, for 1914, the amount of the several kinds of power used in the industry in 26 of the leading states. Steam power was the chief kind of power used in every state shown, except Illinois and New Hampshire, water power being the most important in the latter state and electric rented in the former. New York reported the largest amount of steam power and water power, as well as the largest amount of electric power generated in the establishment reporting. It also reported the largest amount of rented electric power, three-tenths of the total being used by the mills in this state.

Table 15	POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
					Amount.			Per cent distribution.		
		1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....		5,333	2,736	1,414	125,842	103,709	78,769	100.0	100.0	100.
Owned.....		965	1,085	1,049	96,635	88,033	71,660	76.8	84.9	91.
Steam engines and turbines ¹		737	811	795	80,884	74,760	57,460	64.3	72.1	72.
Internal-combustion engines.....		74	113	76	1,108	1,235	668	0.9	1.2	0.
Water wheels, turbines, and motors.....		154	161	178	14,643	12,038	13,532	11.6	11.6	17.
Rented.....		4,368	1,651	365	29,207	15,676	7,109	23.2	15.1	9.
Electric.....		4,368	1,651	365	26,284	13,286	4,648	20.9	12.8	5.
Other.....					2,923	2,390	2,461	2.3	2.3	3.
Electric.....		6,888	2,839	779	46,117	25,485	9,724	100.0	100.0	100.
Rented.....		4,368	1,651	365	26,284	13,286	4,648	57.0	52.1	47.
Generated by establishments reporting.....		2,520	1,188	414	19,833	12,199	5,076	43.0	47.9	52.

¹ Figures for horsepower include for 1909 the amount reported under the head of "other" owned power.

Fuel.—Table 16 shows, for 1914, the quantity of each kind of fuel used, for which data were obtained, for the industry as a whole and 22 separate states.

Bituminous coal was the fuel chiefly used in the in-

dustry. The largest quantity of such coal was reported from New York, and the largest amount of anthracite from Pennsylvania. Coke, oil (including gasoline), and gas were all used to some extent.

Table 16	STATE.	COAL.		Coke (tons, 2,000 lbs.).	Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
		Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).			
United States.....		118,071	484,268	2,849	2,476	40,765
Alabama.....			3,738			
Connecticut.....		61	13,087		102	2,610
Delaware.....		30	1,382			
Georgia.....			15,393		21	250
Illinois.....		52	21,101		129	1,076
Indiana.....		70	9,095		8	
Maryland.....		142	4,252		110	1,580
Massachusetts.....		1,152	36,205	882	74	5,018
Michigan.....		255	19,406		5	151
Minnesota.....		11	5,308			457
New Hampshire.....		315	8,680		1	
New Jersey.....			2,572			
New York.....		41,146	164,981		4	400
North Carolina.....			1,608		552	370
Ohio.....			168			129
Pennsylvania.....		70,234	42,324	1,888	449	9,200
Rhode Island.....			6,521		29	10
South Carolina.....			4,136		4	
Tennessee.....			28,690		139	
Vermont.....		22	5,158			
Virginia.....			11,231		28	
Wisconsin.....		228	20,539		13	6
All other states.....		5	9,236		10	27

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

Materials.—Table 17 presents statistics concerning the principal materials used in the industry for the years 1914, 1909, 1904, and 1899.

Table 17	1914	1909	1904	1899
Materials, total cost ..	\$146,687,458	\$110,241,053	\$76,739,348	\$51,195,330
Cotton:				
Domestic—				
Pounds.....	86,202,432	71,986,529	48,668,643	49,451,301
Cost.....	\$11,083,937	\$8,277,508	\$5,526,396	\$3,561,592
Foreign—				
Pounds.....	2,187,776	3,429,494	1,918,117	(1)
Cost.....	\$360,919	\$526,001	\$342,921	(1)
Carded and other prepared—				
Pounds.....	1,920,124	(1)	(1)	(1)
Cost.....	\$235,832	(1)	(1)	(1)
Waste purchased—				
Pounds.....	24,303,514	(1)	(1)	(1)
Cost.....	\$2,190,762	(1)	(1)	(1)
Wool:				
Domestic (in condition purchased)—				
Pounds.....	5,735,395	6,596,081	16,170,183	17,953,907
Cost.....	\$2,436,524	\$2,666,636	\$5,610,440	\$5,262,135
Foreign (in condition purchased)—				
Pounds.....	1,212,203	472,707	1,130,433	(1)
Cost.....	\$530,959	\$252,419	\$543,418	(1)
Equivalent of above in scoured condition, pounds.....	6,072,257	5,582,839	13,909,144	13,031,308
All other animal hair:				
Pounds.....	690,714	191,344	89,502	(1)
Cost.....	\$153,099	\$62,363	\$54,877	(1)
Recovered wool fiber, purchased:				
Pounds.....	3,453,682	7,482,553	7,489,358	3,770,626
Cost.....	\$602,392	\$919,970	\$923,719	\$488,792
Wool waste and noils, purchased:				
Pounds.....	5,946,337	8,586,261	6,020,459	5,276,454
Cost.....	\$1,827,122	\$2,813,129	\$1,711,669	\$1,487,907

¹ Not reported separately.

Table 17—Continued.	1914	1909	1904	1899
Tops, purchased:				
Pounds.....	265,216	121,565	182,149	(1)
Cost.....	\$140,153	\$92,995	\$116,773	(1)
Raw silk, purchased:				
Pounds.....	1,590,162	(1)	(1)	(1)
Cost.....	\$6,331,413	(1)	(1)	(1)
Yarns, purchased:				
Cotton—				
Pounds.....	189,851,716	216,987,611	161,500,466	131,820,000
Cost.....	\$47,405,667	\$48,165,749	\$34,372,910	\$22,204,910
Mercerized cotton—				
Pounds.....	15,672,427	(1)	(1)	(1)
Cost.....	\$9,289,859	(1)	(1)	(1)
Woolen—				
Pounds.....	7,145,453	6,140,265	4,839,343	2,621,800
Cost.....	\$4,442,765	\$3,834,094	\$2,798,454	\$1,257,500
Worsted—				
Pounds.....	14,305,333	10,370,004	8,789,570	5,823,200
Cost.....	\$11,694,039	\$10,116,325	\$7,457,690	\$4,865,300
Merino—				
Pounds.....	4,333,309	4,014,609	2,568,890	1,981,400
Cost.....	\$2,380,702	\$2,667,051	\$1,118,999	\$642,500
Silk and spun silk—				
Pounds.....	1,913,478	982,753	320,671	266,200
Cost.....	\$7,510,872	\$3,606,599	\$1,200,259	\$946,800
Artificial silk—				
Pounds.....	1,257,243	(1)	(1)	(1)
Cost.....	\$2,337,949	(1)	(1)	(1)
Linen, jute, and other vegetable fiber—				
Pounds.....	70,278	241,754	62,617	116,100
Cost.....	\$60,839	\$180,818	\$56,224	\$111,200
Chemicals and dyestuffs, cost.....	\$2,913,027	\$2,541,939	\$1,677,252	\$1,023,100
All other materials, cost.....	\$32,758,577	\$23,517,457	\$13,277,347	\$9,343,300
Yarns made in the establishment using—				
Cotton, pounds.....	75,970,761	69,171,277	39,954,890	40,845,800
Woolen, pounds.....	7,714,761	8,316,349	(1)	(1)
Worsted, pounds.....	231,752	223,404	(1)	(1)
Merino, pounds.....	24,180,036	20,856,989	(1)	(1)

¹ Not reported separately.

The amount expended for cotton yarn in 1914 represents more than one-third of the cost of all materials. Most of the knitting mills purchase the yarn which they use, instead of spinning it themselves, but the figures in the table indicate an increasing tendency toward the spinning of yarn in the mill where it is to be used. Of the total cotton yarn consumed in the manufacture of hosiery and knit goods, that purchased constituted 73 per cent in 1914, 75.8 per cent in 1909, and 80.2 per cent in 1904. Merino yarn was in the main produced

by the establishments using it, the weight of that purchased being less than one-fifth that made in mills for their own use in further processes of manufacture. In order to present statistics for 1914 comparable with those for earlier years, the cotton waste and the dyed, colored, and other prepared cotton have been included with raw cotton in the table following.

Table 18 shows, by states, the cost of the principal materials used in 1914 and the quantities for 1914, 1909, and 1904.

Table 18					Table 18						
PRINCIPAL PURCHASED MATERIALS USED.					PRINCIPAL PURCHASED MATERIALS USED.						
MATERIAL AND STATE.	Cost.	Quantity (pounds).				MATERIAL AND STATE.	Cost.	Quantity (pounds).			
	1914	1914	1909	1904	1914		1914	1909	1904		
Cotton, raw.....	\$13,871,500	114,613,846	75,416,023	50,586,760	Cotton yarn—Continued.						
Connecticut.....	348,655	2,532,877	1,971,512	2,143,861	Pennsylvania.....	\$18,044,864	59,707,074	59,035,958	46,895,164		
Georgia.....	897,452	8,738,056	4,043,536	(2)	Rhode Island.....	1,008,333	3,472,110	4,609,892	4,778,112		
Massachusetts.....	1,974,656	14,369,989	16,459,053	12,643,679	South Carolina.....	245,270	1,108,123	632,035	(2)		
New Hampshire.....	278,493	2,447,619	1,314,260	1,936,848	Tennessee.....	2,544,195	10,100,327	4,746,986	4,701,653		
New York.....	6,846,738	59,868,436	34,665,053	24,470,590	Utah.....	64,668	203,434	201,231	(2)		
North Carolina.....	1,658,569	10,213,853	3,531,967	2,112,160	Vermont.....	553,938	1,611,015	1,181,332	(2)		
Pennsylvania.....	313,467	2,767,822	2,506,120	1,874,685	Virginia.....	1,504,586	6,890,581	5,017,117	4,446,241		
Tennessee.....	533,129	3,985,128	3,591,120	(2)	Wisconsin.....	2,537,845	7,668,818	4,804,716	3,954,498		
Virginia.....	197,518	2,902,338	1,018,657	(2)	All other states.....	592,321	1,234,014	1,073,571	9,887,443		
All other states.....	822,823	6,787,728	6,314,745	5,404,937	Woolen yarn.....	4,442,765	7,145,453	6,140,265	4,839,343		
Wool:					Illinois.....	242,035	472,487	187,752	145,233		
In condition purchased.....	\$2,967,483	\$6,947,598	\$7,068,788	\$17,300,616	Massachusetts.....	75,254	123,022	113,368	80,380		
Connecticut.....	461,600	1,090,505	1,019,245	1,985,983	Michigan.....	266,098	565,249	449,928	525,370		
Massachusetts.....	154,499	313,877	440,374	1,505,141	Minnesota.....	33,286	47,338	42,420	(2)		
Michigan.....	99,891	255,880	166,136	1,043,143	New Jersey.....	134,473	195,572	154,248	190,074		
New Hampshire.....	82,540	172,081	211,544	803,649	New York.....	1,940,861	3,133,302	3,186,332	1,742,576		
New York.....	1,222,940	2,787,835	1,967,337	4,977,738	Ohio.....	540,454	776,308	773,371	327,684		
Pennsylvania.....	169,404	582,590	467,877	1,168,283	Pennsylvania.....	389,936	611,845	618,809	661,645		
Wisconsin.....	252,799	528,758	302,740	704,000	Utah.....	12,333	17,387	11,271	(2)		
All other states.....	523,810	1,216,072	2,493,535	5,111,847	Vermont.....	37,966	46,803	(2)	(2)		
Equivalent of above in					Wisconsin.....	565,830	838,740	452,896	546,051		
scoured condition.....		6,072,257	5,582,839	13,909,144	All other states.....	204,239	317,400	149,870	620,330		
Connecticut.....		950,743	815,927	1,604,988	Worsted yarn.....	11,694,039	14,305,333	10,370,004	8,789,570		
Massachusetts.....		303,877	340,769	993,141	California.....	123,875	130,951	80,046	(2)		
Michigan.....		248,605	150,082	822,169	Connecticut.....	319,910	378,595	416,566	345,003		
New Hampshire.....		166,768	210,171	722,857	Illinois.....	427,083	493,861	287,276	222,625		
New York.....		2,497,961	1,967,327	4,831,019	Massachusetts.....	1,084,700	1,357,338	619,140	736,826		
Pennsylvania.....		335,941	435,848	1,056,052	Michigan.....	269,051	391,146	306,325	359,380		
Wisconsin.....		528,758	287,095	600,300	Minnesota.....	93,293	111,571	110,190	(2)		
All other states.....		1,039,604	1,375,620	3,278,618	New Hampshire.....	539,371	643,762	733,465	529,943		
Covered wool fibre.....	602,392	3,453,682	7,482,553	7,489,358	New Jersey.....	378,122	441,467	338,566	134,164		
New Hampshire.....	108,522	608,904	506,214	\$13,849	New York.....	3,838,756	4,659,388	3,232,368	2,340,773		
New York.....	328,810	1,742,352	5,410,605	4,444,951	Ohio.....	1,040,979	1,449,655	1,095,829	784,770		
All other states.....	165,060	1,102,426	1,505,734	2,230,558	Pennsylvania.....	1,690,928	2,114,360	1,684,786	1,584,717		
Cotton waste and noils.....	1,827,122	5,946,337	8,586,261	6,020,459	Rhode Island.....	667,144	665,977	597,037	622,209		
Connecticut.....	309,508	811,613	2,015,712	930,683	Utah.....	161,965	170,358	91,872	(2)		
Michigan.....	62,644	210,922	356,037	(2)	Wisconsin.....	790,822	969,424	568,093	514,792		
New York.....	794,894	2,602,559	4,398,579	2,735,224	All other states.....	268,040	327,480	208,445	614,368		
Pennsylvania.....	177,063	636,390	546,497	602,233	Merino yarn.....	2,380,702	4,333,309	4,014,609	2,568,890		
Wisconsin.....	94,568	428,988	199,878	(2)	Connecticut.....	34,946	90,919	46,178	(4)		
All other states.....	388,445	1,255,865	1,069,558	1,752,319	Illinois.....	261,472	469,100	297,119	(4)		
Wool:					Massachusetts.....	294,263	558,104	466,747	(4)		
In condition purchased.....					Michigan.....	53,003	105,879	149,591	(4)		
Connecticut.....	140,153	265,216	121,565	(4)	New Jersey.....	20,333	43,341	35,139	(4)		
Connecticut.....	22,150	29,000	38,783	(4)	New York.....	425,091	668,811	925,440	(4)		
New York.....	50,004	80,042	66,914	(4)	Ohio.....	493,278	1,107,919	843,181	(4)		
All other states.....	67,999	156,174	15,868	(4)	Pennsylvania.....	202,024	339,279	389,296	(4)		
Cotton yarn.....	\$56,695,526	\$205,524,143	\$216,987,611	\$161,500,466	Rhode Island.....	57,816	85,966	314,648	(4)		
Alabama.....	261,323	1,286,564	576,998	(2)	Wisconsin.....	107,889	148,549	238,931	(4)		
California.....	99,881	198,593	132,922	(2)	All other states.....	430,587	715,442	308,339	(4)		
Connecticut.....	275,202	782,518	1,539,828	1,221,624	Silk yarn and spun-silk yarn.....	\$13,842,285	\$3,503,640	982,753	320,671		
Delaware.....	222,856	992,183	936,766	(2)	Connecticut.....	47,873	12,999	7,139	(4)		
Georgia.....	1,180,263	5,086,521	4,886,428	6,606,954	Indiana.....	235,078	56,185	(4)	(4)		
Illinois.....	2,277,280	7,994,125	6,677,751	5,112,300	Massachusetts.....	718,503	180,060	124,715	(4)		
Indiana.....	950,474	2,192,706	1,420,294	(2)	New Jersey.....	954,690	232,019	57,403	(4)		
Maryland.....	447,964	2,027,052	2,000,505	(2)	New York.....	4,938,490	1,249,453	423,230	(4)		
Massachusetts.....	2,442,240	7,325,269	6,963,775	3,711,210	Ohio.....	58,441	20,796	38,281	(4)		
Michigan.....	970,418	3,518,227	2,366,690	2,218,111	Pennsylvania.....	4,965,729	1,277,406	250,467	(4)		
Minnesota.....	1,387,504	4,517,094	1,794,137	(2)	Rhode Island.....	390,974	98,640	22,900	(4)		
New Hampshire.....	685,233	2,725,462	3,712,733	2,874,555	Wisconsin.....	1,095,122	264,453	38,582	(4)		
New Jersey.....	928,819	2,393,184	2,264,614	1,815,300	All other states.....	437,385	111,629	20,036	(4)		
New York.....	13,102,333	53,999,653	86,676,623	56,512,123	Linen, jute, and other vege-						
North Carolina.....	2,602,344	12,333,975	9,527,471	5,115,699	table fiber yarn.....	60,839	70,278	241,754	62,617		
Ohio.....	1,765,372	6,155,521	4,207,238	1,649,479	Pennsylvania.....	13,931	22,743	15,975	(4)		
					All other states.....	46,908	47,535	225,779	(4)		

¹ Includes for 1914, 2,187,776 pounds of foreign cotton, costing \$360,919; 1,920,124 pounds of carded or other prepared cotton, costing \$235,832; and 24,303,514 pounds of cotton waste, costing \$2,190,762; and for 1909, 3,429,494 pounds of foreign cotton. (See Table 20.)

² Included in figures for "all other states," to avoid disclosure of individual operations.

³ Includes for 1914, 1,212,203 pounds of foreign wool, costing \$530,959; for 1909, 472,707 pounds; and for 1904, 1,130,433 pounds.

⁴ Not reported separately.

⁵ Includes mercerized cotton yarn. (See Table 20.)

⁶ Includes raw silk. (See Table 20.)

New York consumed more than one-half (52.2 per cent) of the total cotton used, while Pennsylvania consumed only 2.4 per cent. The cotton in various forms is used in the manufacture of cotton and merino yarns either for use in the same establishment or for sale as such.

Table 19 shows, by states, the quantity of yarns manufactured in the knitting mills for use therein.

STATE.	YARNS MANUFACTURED FOR OWN CONSUMPTION: 1914 (POUNDS).			
	Cotton.	Woolen (carded).	Worsted (combed).	Merino (cotton mixed).
United States.....	75,970,761	7,714,761	231,752	24,180,036
Connecticut.....	744,374	660,972	.....	4,167,320
Georgia.....	4,217,806	.....	.....	.....
Massachusetts.....	8,677,894	424,474	.....	748,670
Michigan.....	902,013	341,500	.....	386,240
New Hampshire.....	365,102	1,248,165	.....	1,559,179
New York.....	42,633,607	2,061,600	23,250	12,707,047
North Carolina.....	7,030,783	.....	.....	.....
Pennsylvania.....	1,893,461	205,449	135,000	1,211,269
Tennessee.....	3,374,188	.....	.....	.....
Virginia.....	3,485,011	.....	.....	.....
Wisconsin.....	113,663	1,104,671	.....	231,340
All other states.....	2,532,859	1,667,930	73,502	3,138,971

As shown in Table 22, New York produced the largest amount of cotton yarn made for sale in 1914, 8,235,253 pounds, or 48.3 per cent of the total for the industry; the mills in this state also reported as made for use in the same establishment 42,633,607 pounds of cotton yarn, or 56.1 per cent of the total for the industry. Of the 96,633,260 pounds of cotton yarn used in the knitting mills of New York state, 44.1 per cent was made in the establishments for their own use, while the remainder was purchased as such. The mills of Massachusetts, Connecticut, and Georgia, however, manufactured a higher proportion of the total cotton yarn which they consumed. In Pennsylvania only 1,893,461 pounds, or 3.1 per cent of the total cotton yarn used (61,600,535 pounds), was made by the establishments using it.

About one-half of the woolen yarn consumed in 1914 was made in the mills which used it, though this was a smaller proportion than in 1909, when 57.5 per cent of the total woolen yarn used (14,456,614 pounds), was made in knitting mills for their own use. The amount of woolen yarn made by mills for their own use is not shown for 1904 and 1899, but the large decrease in the raw materials, from which such yarn would be made—scoured wool, wool waste, and recovered wool fiber—shows that the tendency noted from 1909 to 1914, is but the continuation of a movement which began in an earlier year. Practically the same amount of worsted yarn was used in 1914, as of woolen yarn; almost all of the worsted yarn used, however, was purchased as such, only 1.6 per cent of the total in 1914 being made in the mills which used it. Most of the merino yarn, on the other hand, was made by knitting mills for their own use, only 15.5

per cent of the total merino yarn used in 1914 and 16.1 per cent in 1909, being purchased as such.

The amount of silk used in the manufacture of hosiery and knit goods shows a pronounced increase from 1909 to 1914. In the latter year, for the first time there were gathered statistics of raw and of artificial silk as distinguished from "silk yarn and spun-silk yarn." The quantity and cost of these materials for 1914 are given in the next table. Raw silk used in previous census years was probably included with the silk yarn reported, or under "all other materials." In order to secure approximately comparable figures, therefore, it is necessary to combine for 1914 the figures for raw silk with those for silk and spun-silk yarn. The apparently large increase in the use of silk in this industry is not due entirely to the increased production of silk knit goods, but to the fact that some knitting mills using silk exclusively as a material in 1909 were classed in the silk-manufacturing industry in that year, whereas in 1914 all knitting mills were assigned to the hosiery and knit-goods industry irrespective of the materials used. Notwithstanding the understatement of the silk used at earlier census years, however, it is certain that there was a very large increase in its use during the five-year period 1909-1914 in the manufacture of hosiery and knit goods.

The materials used by establishments not primarily engaged in the manufacture of hosiery and knit goods but which reported this class of goods as subsidiary products, are not included in the preceding tables. A majority of these establishments are classed with other textile industries and their materials are included in the statistics for the industries to which they are assigned.

Table 20 shows, for 1914, the quantity and cost of certain materials for which separate statistics were not secured at previous censuses.

MATERIAL AND STATE.	Quantity (pounds).	Cost.	MATERIAL AND STATE.	Quantity (pounds).	Cost.
Cotton, carded and other prepared..	1 1,920,124	1 \$235,832	Merzerized cotton yarn—cont'd.		
New Hampshire..	742,035	71,119	Michigan.....	389,553	\$256,765
New York.....	682,748	88,147	New Jersey.....	591,808	443,146
All other states...	495,341	76,566	New York.....	484,290	296,976
Cotton waste.....	1 24,303,514	1 2,190,762	North Carolina..	115,491	62,066
Connecticut.....	688,320	80,595	Ohio.....	380,502	232,874
New Hampshire..	458,286	50,682	Pennsylvania...	6,249,291	3,881,545
New York.....	19,624,939	1,691,211	Rhode Island....	82,676	58,050
Virginia.....	945,546	104,103	Tennessee.....	1,074,332	541,751
All other states...	2,586,423	264,171	Virginia.....	34,979	11,968
Raw silk.....	1 1,590,162	1 6,331,413	Wisconsin.....	1,733,789	972,316
New Jersey.....	164,490	678,584	All other states..	1,502,101	813,635
New York.....	1,025,446	4,019,741	Artificial silk.....	1,257,243	2,337,949
Pennsylvania....	400,226	1,633,088	Illinois.....	4,537	8,690
Merzerized cotton yarn.....	1 15,672,427	1 9,289,859	Massachusetts...	129,254	251,447
Connecticut.....	64,254	46,100	New York.....	55,336	100,437
Illinois.....	313,465	207,481	Ohio.....	57,854	101,380
Indiana.....	1,542,360	754,306	Pennsylvania....	829,309	1,526,980
Massachusetts...	1,113,536	710,880	Wisconsin.....	65,465	118,484
			All other states..	115,488	230,481

¹ Included in Table 18. See footnotes.

Products.—The products of the hosiery and knit-goods industry in the United States for the years 1914, 1909, 1904, and 1899 are shown in Table 21.

Table 21	1914	1909	1904	1899
Products, total value...	\$258,912,903	\$200,143,527	\$137,076,454	\$95,833,692
Hosiery:				
Dozen pairs.....	75,164,911	62,825,069	44,186,063	29,903,899
Value.....	\$98,098,590	\$68,721,825	\$44,113,260	\$27,420,029
Hose—				
Dozen pairs.....	44,186,412	34,923,976	22,041,878	21,654,341
Value.....	\$63,144,569	\$41,503,427	\$26,674,346	\$16,389,785
Cotton—				
Dozen pairs.....	36,952,380	32,499,104	24,169,804	15,028,173
Value.....	\$38,390,194	\$34,078,622	\$22,764,799	\$13,275,732
Wool—				
Dozen pairs.....	1,369,492	1,166,429	1,083,783	1,176,705
Value.....	\$2,548,047	\$2,358,106	\$2,205,080	\$2,267,681
Merino—				
Dozen pairs.....	723,433	834,029	746,226	436,891
Value.....	\$1,414,118	\$1,466,283	\$1,182,164	\$659,959
Silk—				
Dozen pairs.....	2,354,648	2,434,414	2,42,065	2,12,572
Value.....	\$13,851,251	\$3,600,416	\$522,303	\$186,413
Silk-mixed—				
Dozen pairs.....	2,786,459	(³)	(³)	(³)
Value.....	\$6,940,959	(³)	(³)	(³)
Half-hose:				
Dozen pairs.....	30,978,499	27,891,093	18,144,185	13,249,558
Value.....	\$34,954,021	\$27,218,398	\$17,438,914	\$11,030,244
Cotton—				
Dozen pairs.....	24,457,195	24,805,917	15,223,243	11,352,081
Value.....	\$21,241,280	\$21,831,365	\$11,821,830	\$7,906,945
Wool—				
Dozen pairs.....	616,341	1,061,535	1,309,876	939,957
Value.....	\$1,327,439	\$2,087,121	\$3,402,406	\$1,738,535
Merino—				
Dozen pairs.....	2,335,861	2,023,641	1,611,066	957,520
Value.....	\$3,384,831	\$3,299,912	\$2,214,678	\$1,384,764
Silk—				
Dozen pairs.....	1,305,792	(⁴)	(⁴)	(⁴)
Value.....	\$4,701,969	(⁴)	(⁴)	(⁴)
Silk-mixed—				
Dozen pairs.....	2,263,310	(³)	(³)	(³)
Value.....	\$4,298,502	(³)	(³)	(³)
Shirts and drawers:				
Dozens.....	21,758,775	25,337,779	19,723,141	15,873,700
Value.....	\$57,523,051	\$69,592,817	\$56,643,860	\$45,675,594
Cotton—				
Dozens.....	19,735,898	22,567,121	17,107,958	12,058,431
Value.....	\$43,097,937	\$50,007,598	\$39,658,762	\$26,882,902
Wool—				
Dozens.....	373,045	178,163	483,328	1,085,046
Value.....	\$3,448,575	\$1,820,521	\$3,647,934	\$4,980,818
Merino—				
Dozens.....	1,434,504	2,536,473	2,113,810	2,675,416
Value.....	\$9,228,686	\$17,055,624	\$13,031,754	\$13,293,829
Silk—				
Dozens.....	69,786	56,022	16,045	54,807
Value.....	\$1,214,609	\$709,074	\$305,410	\$518,045
Silk-mixed—				
Dozens.....	43,118	(⁵)	(⁵)	(⁵)
Value.....	\$313,439	(⁵)	(⁵)	(⁵)
All other—				
Dozens.....	102,424	(³)	(³)	(³)
Value.....	\$219,805	(³)	(³)	(³)
Combination suits:				
Dozens.....	6,272,515	2,473,103	1,440,420	986,855
Value.....	\$35,596,034	\$14,853,536	\$6,773,947	\$3,691,847
Cotton—				
Dozens.....	5,468,730	2,047,637	1,260,301	824,632
Value.....	\$25,617,815	\$9,713,597	\$4,478,664	\$2,240,566
Wool—				
Dozens.....	147,221	50,102	68,067	9,501
Value.....	\$2,490,815	\$683,289	\$965,132	\$201,667
Merino—				
Dozens.....	486,128	364,387	105,242	139,994
Value.....	\$5,706,102	\$4,217,432	\$1,199,949	\$1,133,328
Silk—				
Dozens.....	31,714	10,977	6,810	12,728
Value.....	\$886,248	\$239,218	\$150,202	\$116,286
Silk-mixed—				
Dozens.....	29,895	(⁶)	(⁶)	(⁶)
Value.....	\$393,618	(⁶)	(⁶)	(⁶)
All other—				
Dozens.....	108,827	(³)	(³)	(³)
Value.....	\$501,436	(³)	(³)	(³)
Bathing suits:				
Dozens.....	274,454	(³)	(³)	(³)
Value.....	\$2,033,889	(³)	(³)	(³)
Leggings:				
Dozens.....	74,901	65,326	122,462	71,038
Value.....	\$313,952	\$192,242	\$619,998	\$248,523
Gloves and mittens:				
Dozens.....	2,470,183	2,527,889	2,260,508	1,898,587
Value.....	\$10,519,613	\$7,296,857	\$5,556,260	\$4,244,046
Hoods, scarfs, etc.:				
Dozens.....	987,178	888,223	589,315	343,429
Value.....	\$3,456,326	\$3,217,985	\$1,774,862	\$1,002,392

¹ In addition, hosiery and knit goods to the value of \$5,088,033 in 1914, and to the value of \$2,975,749 in 1909, were reported by establishments engaged primarily in other industries.

² Includes silk half-hose.

³ Not reported separately.

⁴ Included in silk hose.

⁵ Included in silk shirts and drawers.

⁶ Included in silk combination suits.

Table 21—Continued.	1914	1909	1904	1899
Cardigan jackets, sweaters, etc.:				
Dozens.....	2,249,142	2,221,410	811,629	594,090
Value.....	\$26,195,002	\$22,430,817	\$8,345,369	\$3,498,837
Shawls:				
Dozens.....	63,264	218,923	435,306	157,622
Value.....	\$713,545	\$916,294	\$1,293,348	\$328,720
All other fancy knit goods, value.....	\$3,196,979	\$2,392,927	\$2,118,842	\$951,052
Boot and shoe linings:				
Square yards.....	6,221,601	9,726,770	11,768,961	10,406,440
Value.....	\$670,095	\$1,209,464	\$1,249,401	\$2,205,003
Eider down:				
Square yards.....	1,076,995	1,298,322	4,843,939	(¹)
Value.....	\$516,957	\$442,431	\$1,018,981	(¹)
Jersey cloth and stockinette:				
Square yards.....	10,593,986	3,111,272	3,354,026	4,488,911
Value.....	\$4,378,544	\$784,255	\$1,145,127	\$1,305,376
Astrakhan and similar fabrics:				
Square yards.....	1,854,851	410,207	455,274	664,779
Value.....	\$1,251,653	\$269,323	\$354,316	\$332,488
Yarns for sale:				
Cotton—				
Pounds.....	17,052,510	7,457,412	3,304,615	2,419,282
Value.....	\$3,990,349	\$1,568,417	\$654,234	\$422,100
Woolen—				
Pounds.....	2,117,634	3,488,322	62,653	79,027
Value.....	\$264,499	\$217,114	\$14,268	\$38,307
Worsted—				
Pounds.....	(¹)	(¹)	232,869	51,202
Value.....	(¹)	(¹)	\$230,836	\$36,303
Merino—				
Pounds.....	183,147	(¹)	196,037	4,300
Value.....	\$6,905	(¹)	\$100,745	\$2,080
Cotton waste:				
Pounds.....	12,999,218	(¹)	(¹)	(¹)
Value.....	\$628,944	(¹)	(¹)	(¹)
Old bagging and ties, value...	\$24,452	(¹)	(¹)	(¹)
Amount of contract work, value.....	\$3,649,274	\$1,082,485	\$208,167	\$273,931
All other products, value.....	\$6,014,250	\$4,954,708	\$4,849,633	\$4,157,064

¹ Not reported separately.

² Includes worsted yarn, to avoid disclosure of individual operations.

³ Includes woolen, worsted, and merino yarns.

From 1909 to 1914 the total value of the products of the industry increased \$58,769,376, or 29.4 per cent. From 1904 to 1909 the increase was 46 per cent and from 1899 to 1904, 43 per cent.

The value of hosiery constituted 37.9 per cent of the total value of products in 1914; shirts and drawers, 22.2 per cent; combination suits, 13.7 per cent; sweaters and cardigan jackets, 10.1 per cent; and gloves and mittens, 4.1 per cent. Each of these reported a total product of over \$10,000,000 in 1914.

Goods made of cotton was the most important class of hosiery, as well as of underwear. Cotton hosiery in 1914 constituted 81.7 per cent of the total quantity; cotton shirts and drawers, 90.7 per cent; and cotton combination suits, 87.2 per cent. In 1909 these percentages were, for hosiery 91.2, for shirts and drawers 89.1, and for combination suits 82.8. The value of cotton hosiery, however, represented a much smaller proportion of the value of all hosiery, constituting only 60.8 per cent of the total in 1914, as compared with 81.4 per cent in 1909. The great increase in the manufacture of silk and silk-mixed hosiery accounts for the relative decrease in the production of cotton hosiery. The value of silk hosiery constituted less than seven-tenths of 1 per cent of the value of all hosiery in 1899, 1.2 per cent in 1904, and 5.2 per cent in 1909, while in 1914 it amounted to 30.4 per cent.

Cotton, wool, silk, and silk-mixed hose exceeded in quantity and in value the corresponding kinds of half hose, but there were 2,335,861 dozen pairs of merino

half hose manufactured as compared with 723,433 dozen pairs of merino hose. From 1909 to 1914 there was an increase of 12,339,842 dozen pairs of hose and half hose, or a gain of 19.6 per cent, and during the same period the value increased 42.7 per cent.

Table 22 gives, by states, the quantities of the different products of the hosiery and knit-goods industry for 1914, 1909, and 1904, and the value of such products in 1914.

Table 22	PRODUCT AND STATE.	VALUE.	QUANTITY.			PRODUCT AND STATE.	VALUE.	QUANTITY.		
		1914	1914	1909	1904		1914	1914	1909	1904
			Doz. pairs.	Doz. pairs.	Doz. pairs.			Dozens.	Dozens.	Dozens.
Hosiery.....	\$98,098,590	75,164,911	62,825,069	44,186,063		Shirts and drawers.....	\$57,523,051	21,758,775	25,337,779	19,723,141
Alabama.....	426,010	586,334	373,500	(1)		Connecticut.....	3,559,982	505,219	471,708	440,731
Connecticut.....	841,912	544,475	560,100	672,242		Georgia.....	396,715	185,600	314,893	425,668
Delaware.....	505,668	693,416	661,104	(1)		Massachusetts.....	5,034,294	1,354,538	1,667,482	1,253,170
Georgia.....	3,418,548	4,651,961	3,726,330	1,880,495		Michigan.....	919,478	833,089	720,202	532,829
Illinois.....	5,025,196	4,238,360	3,550,613	(1)		New Hampshire.....	512,160	135,359	260,703	287,864
Maryland.....	652,024	731,754	866,476	(1)		New Jersey.....	577,236	181,999	178,150	195,730
Massachusetts.....	5,695,684	4,528,469	4,506,960	2,790,860		New York.....	23,287,935	9,203,882	12,474,922	10,350,484
Michigan.....	1,847,284	761,770	605,589	356,459		North Carolina.....	1,790,605	686,519	409,635	(1)
New Hampshire.....	3,196,266	2,597,949	2,681,273	2,300,948		Ohio.....	321,940	70,176	126,305	119,454
New Jersey.....	3,676,773	855,252	850,932	1,101,536		Pennsylvania.....	9,154,213	6,524,131	6,721,569	4,029,491
New York.....	2,019,192	272,663	355,687	233,697		Rhode Island.....	497,759	145,275	199,997	(1)
North Carolina.....	6,223,477	8,762,607	5,811,340	(1)		Vermont.....	742,553	145,453	158,049	(1)
Ohio.....	968,028	594,199	400,275	411,817		Virginia.....	2,276,864	838,056	725,509	(1)
Pennsylvania.....	40,442,927	29,855,896	27,832,601	20,327,710		All other states.....	3,451,317	949,479	908,655	2,087,720
Rhode Island.....	1,814,197	580,084	551,194	(1)		Cotton.....	43,097,937	19,735,898	22,567,121	17,107,958
South Carolina.....	741,487	933,871	855,431	(1)		Connecticut.....	486,518	131,988	113,603	112,108
Tennessee.....	5,471,076	5,537,249	3,267,156	(1)		Georgia.....	396,715	185,600	314,893	425,000
Virginia.....	1,075,535	1,524,174	715,807	561,484		Massachusetts.....	3,408,500	1,142,782	1,415,227	1,098,633
Wisconsin.....	8,474,900	3,631,394	2,373,261	1,673,731		Michigan.....	769,764	816,960	692,266	519,984
All other states.....	5,582,406	3,233,034	2,276,440	11,875,084		New Jersey.....	411,524	150,908	133,992	135,815
Cotton.....	59,631,474	61,409,575	57,305,021	39,393,047		New York.....	22,704,651	8,466,807	11,238,711	8,974,368
Alabama.....	426,010	586,334	373,500	(1)		North Carolina.....	1,790,605	686,519	409,635	(1)
Delaware.....	505,668	693,416	661,104	(1)		Pennsylvania.....	8,008,691	6,340,164	6,552,364	3,852,513
Georgia.....	3,418,548	4,651,961	3,726,330	1,880,495		Rhode Island.....	373,889	133,809	110,443	(1)
Illinois.....	3,900,131	3,686,091	3,068,634	1,861,140		Virginia.....	2,276,864	838,056	725,509	733,761
Maryland.....	559,824	669,954	825,921	(1)		All other states.....	2,470,216	842,305	860,478	1,255,776
Massachusetts.....	3,540,884	3,791,779	4,280,266	2,556,261		Wool.....	3,448,575	373,045	178,163	485,328
New Hampshire.....	970,589	1,034,358	1,186,912	1,043,153		Connecticut.....	567,503	53,360	17,381	(1)
New Jersey.....	468,880	364,497	752,452	1,090,511		Massachusetts.....	362,418	32,695	35,354	106,813
North Carolina.....	6,204,477	8,746,982	5,806,140	2,928,032		New York.....	1,382,295	161,794	61,424	198,723
Pennsylvania.....	23,209,500	23,383,766	27,139,582	19,707,227		All other states.....	1,136,359	125,196	64,004	179,792
South Carolina.....	741,487	933,871	855,431	(1)		Merino.....	9,228,686	1,434,504	2,536,473	2,113,810
Tennessee.....	5,077,710	5,426,052	3,267,156	(1)		Connecticut.....	2,456,559	315,804	338,589	286,049
Virginia.....	1,075,535	1,524,174	715,807	561,484		Massachusetts.....	957,713	145,781	182,903	44,729
Wisconsin.....	4,370,689	2,567,571	2,042,952	1,449,096		New York.....	3,183,944	484,268	1,162,148	1,171,123
All other states.....	5,161,542	3,298,769	2,601,834	6,315,648		Pennsylvania.....	926,930	163,755	161,883	150,519
Hose.....	38,390,194	36,952,380	32,499,104	24,169,804		All other states.....	1,703,540	324,896	690,950	461,390
Alabama.....	375,250	438,809	288,352	(1)		Silk.....	1,214,609	69,786	256,022	216,045
Georgia.....	1,836,419	2,515,163	1,226,235	602,388		New York.....	946,719	53,603	12,639	6,270
Illinois.....	2,806,615	2,046,650	1,188,667	504,304		All other states.....	267,890	16,183	43,383	9,775
Maryland.....	261,017	339,646	271,467	(1)		Silk-mixed.....	313,439	43,118	(4)	(4)
Massachusetts.....	2,854,028	3,097,784	3,506,546	2,118,093		Massachusetts.....	202,519	25,280		
New Hampshire.....	906,506	962,116	1,164,666	(1)		All other states.....	110,920	17,838		
New Jersey.....	379,480	302,918	656,239	949,862		All other.....	219,805	102,424	(5)	(5)
North Carolina.....	4,450,879	5,917,709	3,879,392	1,950,578		Combination suits.....	35,596,034	6,272,515	2,473,103	1,440,420
Pennsylvania.....	13,258,784	11,719,660	13,876,893	11,769,534		Massachusetts.....	3,279,212	408,445	183,175	123,144
South Carolina.....	379,209	377,123	159,404	(1)		Michigan.....	1,128,522	132,304	77,002	(1)
Tennessee.....	4,206,147	4,464,822	2,420,817	(1)		New York.....	13,003,094	2,638,635	990,841	(1)
Virginia.....	824,294	1,127,595	495,803	(1)		Ohio.....	3,205,329	291,491	191,932	76,089
Wisconsin.....	2,164,681	1,176,617	1,143,366	1,337,595		Pennsylvania.....	4,115,222	1,415,583	436,275	281,527
All other states.....	3,686,885	2,405,768	2,221,257	4,937,450		Wisconsin.....	1,446,264	132,744	43,913	(1)
Half hose.....	21,241,280	24,457,195	24,805,917	15,223,243		All other states.....	9,418,391	1,253,313	549,965	959,660
Georgia.....	1,582,129	2,136,798	2,500,095	1,278,107		Cotton.....	25,617,815	5,468,730	2,047,637	1,260,301
Illinois.....	1,093,516	1,639,441	1,880,967	1,356,836		Massachusetts.....	1,695,784	238,256	100,024	53,825
Maryland.....	298,807	330,308	544,454	(1)		Michigan.....	603,206	103,588	50,062	(1)
Massachusetts.....	686,856	693,995	773,720	438,168		New York.....	11,099,564	2,528,302	938,554	655,324
North Carolina.....	1,753,598	2,829,273	1,926,748	977,454		Ohio.....	2,165,308	219,704	131,186	55,823
Pennsylvania.....	9,950,716	11,664,106	13,262,689	7,937,693		Pennsylvania.....	3,918,534	1,388,936	412,567	271,069
South Carolina.....	362,278	606,748	696,027	(1)		All other states.....	6,135,419	989,944	415,244	224,260
Tennessee.....	871,563	961,230	846,339	(1)		Wool.....	2,490,815	147,221	50,102	68,067
Virginia.....	251,241	396,579	220,004	187,876		New York.....	536,762	28,333		(1)
Wisconsin.....	2,206,008	1,390,954	899,586	111,501		Utah.....	170,282	3,915	3,126	(1)
All other states.....	2,184,568	1,807,763	1,255,288	3,123,484		All other states.....	1,783,771	114,973	46,976	68,067
Wool.....	3,875,486	1,985,833	2,227,964	2,393,659		Merino.....	5,706,102	486,128	364,387	105,242
New Hampshire.....	785,153	495,565	991,105	600,706		Massachusetts.....	851,778	82,990	74,643	24,609
Pennsylvania.....	708,663	413,660	428,918	502,226		New York.....	597,853	51,470	52,254	27,297
Wisconsin.....	616,671	275,406	128,894	187,876		Ohio.....	863,951	62,986	58,063	15,643
All other states.....	1,764,999	801,202	679,047	1,102,851		Pennsylvania.....	136,050	18,057	23,268	9,858
Merino.....	4,798,949	3,059,294	2,857,670	2,357,292		Rhode Island.....	273,804	23,472	27,419	(1)
New Hampshire.....	1,399,656	1,053,502	503,256	657,089		All other states.....	2,982,666	247,153	128,740	27,835
All other states.....	3,399,293	2,005,792	2,354,414	1,700,203		Silk.....	886,248	31,714	210,977	26,810
Silk.....	18,553,220	3,660,440	2,434,414	2,42,065		Silk-mixed.....	393,618	29,895	(4)	(4)
Massachusetts.....	1,117,963	108,106	(3)	(1)		Massachusetts.....	301,573	18,651		
New Jersey.....	2,724,928	368,193	(3)	(1)		All other states.....	92,045	11,244		
New York.....	1,794,233	195,392	(3)	(1)		All other.....	501,436	108,827	(5)	(5)
Pennsylvania.....	7,978,512	1,990,922	2,145,497	2,21,035						
Wisconsin.....	2,825,526	557,086	2,77,600	(1)						
All other states.....	2,112,058	440,741	2,211,317	2,21,030						
Silk-mixed.....	11,239,461	5,049,769	(4)	(4)						
Massachusetts.....	727,283	405,295								
New Jersey.....	468,195	119,372								
New York.....	87,003	11,610								
Pennsylvania.....	8,545,682	4,066,978								
Wisconsin.....	437,245	144,297								
All other states.....	974,053	302,217								

(See footnotes at end of table.)

Table 22—Continued.		QUANTITY.			VALUE.		QUANTITY.		
PRODUCT AND STATE.		1914	1909	1904	1914	1914	1914	1909	1904
		<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>			<i>Dozens.</i>	<i>Dozens.</i>	<i>Dozens.</i>
Bathing suits.....		\$2,033,889	274,454				63,264	218,923	435,306
California.....		198,596	15,512				8,837	9,800	23,330
Massachusetts.....		69,432	6,328				41,443	122,080	310,031
New York.....		911,495	123,553				12,984	87,043	101,945
Ohio.....		49,380	3,285						
Pennsylvania.....		698,116	117,014						
All other states.....		106,870	8,732						
Leggings.....		313,952	74,901	65,326					
New York.....		242,923	65,029	52,107					
All other states.....		71,029	9,872	13,219					
Gloves and mittens.....		10,519,613	2,470,183	2,527,889					
Michigan.....		329,317	120,449	215,797					
New York.....		7,610,687	1,340,479	1,195,140					
Ohio.....		248,048	253,137	319,522					
Pennsylvania.....		1,428,663	310,939	284,931					
Wisconsin.....		488,993	251,820	368,157					
All other states.....		413,905	193,359	114,342					
Hoods, scarfs, etc.....		3,456,326	987,178	888,223					
New York.....		643,716	177,235	121,301					
Ohio.....		1,587,664	537,175	272,478					
Wisconsin.....		860,967	181,236	322,688					
All other states.....		363,979	91,532	168,756					
Cardigan jackets, sweaters, etc.....		26,195,002	2,249,142	2,221,410					
Illinois.....		601,455	25,556	22,286					
Massachusetts.....		1,394,263	91,857	40,544					
New Jersey.....		1,278,955	68,098	70,772					
New York.....		14,302,914	1,464,606	1,656,336					
Ohio.....		1,669,895	150,295	115,457					
Pennsylvania.....		3,765,825	304,550	221,700					
Wisconsin.....		1,715,349	85,439	54,292					
All other states.....		1,466,346	55,741	40,023					
Shawls.....		\$713,545							
New York.....		105,815							
Ohio.....		390,505							
All other states.....		217,225							
All other fancy knit goods.....		3,196,979							
New York.....		1,612,358							
Ohio.....		62,769							
Pennsylvania.....		1,220,486							
All other states.....		301,375							
Boot and shoe linings.....		670,095							
Rhode Island.....		607,296							
All other states.....		62,799							
Eider down.....		516,957							
Jersey cloth and stockinette.....		4,378,544							
New York.....		3,067,588							
Pennsylvania.....		912,766							
All other states.....		398,190							
Astrakhan and similar fabrics.....		1,251,653							
Yarns for sale:									
Cotton.....		3,990,349							
Georgia.....		898,736							
New York.....		1,870,570							
All other states.....		1,221,043							

¹ State figures not available. Included in "all other states."

² Includes silk-mixed goods.

³ Included in figures for "all other states," to avoid disclosure of individual operations.

⁴ Included with silk.

⁵ Not reported separately.

Pennsylvania was the leading state in 1914 in the production of hosiery, reporting 39.7 per cent of the total quantity and 41.2 per cent of the total value of the hosiery manufactured in that year. In the quantity produced North Carolina ranked second, with an output of 8,762,607 dozen pairs; Tennessee, third, with 5,537,249 dozen pairs; and Georgia, fourth, with 4,651,961 dozen pairs. Massachusetts, which ranked third in 1909, dropped to fifth place in 1914. New York, the most important state in the manufacture of hosiery and knit goods, ranked last in the quantity of hosiery manufactured, although nine other states reported a smaller value of the product. This was due to the comparatively large amount of silk and silk-mixed hosiery manufactured, more than three-fourths of the total quantity reported for the state being of such materials. In value, silk and silk-mixed hosiery represented 93.2 per cent of the total value of the hosiery made in the state.

There was an increase from 1909 to 1914 of 4,104,554 dozen pairs, or 7.2 per cent, in cotton hosiery manufactured, as compared with an increase of 45.5 per cent during the preceding five-year period. Practically the entire increase from 1909 to 1914 occurred in the southern states. All other states, except Delaware, Illinois, and Wisconsin, reported decreases, the largest being in Pennsylvania, where a decline of 3,755,816 dozen pairs, or 13.8 per cent, was shown. The production in Virginia increased 112.9 per cent, in Tennessee, 66.1 per cent, and in Alabama, 57 per cent.

New Hampshire ranked first in the production of both wool and merino hosiery at the last two censuses. The state, however, reported a decided change in the material used in 1914—a decrease of 50 per cent in its production of wool hosiery since 1909 and an increase of over 100 per cent in merino hosiery. Wisconsin reported an increase of 113.5 per cent from 1909 to 1914 in the production of wool hosiery.

The production of silk and silk-mixed hosiery in Pennsylvania increased from 145,497 in 1909 to 6,057,900 dozen pairs in 1914. The only other state for which comparative figures can be shown is Wisconsin, where the increase amounted to 623,783 dozen pairs, or 803.8 per cent.

Although there was practically no change from 1909 to 1914 in the quantity of underwear manufactured throughout the country, the increase amounting to only 220,408 dozens, or less than 1 per cent, there was a decided change in the kind of material used. In 1914 there were manufactured a total of 21,758,775 dozens of shirts and drawers as compared with 25,337,779 in 1909, a decrease of 3,579,004 dozens, or 14.1 per cent, while the number of combination suits manufactured increased from 2,473,103 dozens in 1909 to 6,272,515 dozens in 1914, a gain of 153.6 per cent.

The decrease in the total quantity of shirts and drawers manufactured in 1914 was confined to those made of cotton and merino, since the production of wool and silk and silk-mixed shirts and drawers in 1914 was more than double that of 1909. Each kind of combination suits showed a decided increase in

quantity from 1909 to 1914. This gain was especially noticeable in the case of cotton combination suits (167.1 per cent), and in those made of wool (193.8 per cent). Silk and silk-mixed combination suits showed an even larger increase (461.3 per cent) in quantity. "All other" in 1914 included underwear manufactured from materials other than those designated separately.

In 1914 New York produced 42.3 per cent of the total quantity of shirts and drawers made in the United States; and Pennsylvania, 30 per cent. In each state the actual production was less than in 1909, the decreases being 3,271,040 dozens, or 26.2 per cent, for New York and 197,438 dozens, or 2.9 per cent, for Pennsylvania. Of the states shown in the table, Michigan, North Carolina, and Virginia are the only ones to show material gains in the manufacture of these goods.

In the production of combination suits, New York and Pennsylvania also rank first and second, respectively, the former reporting 42.1 and the latter 22.6 per cent of the total quantity made throughout the states. In New York the increase in the quantity manufactured in 1914 over that in 1909 was 166.3 per cent, and in Pennsylvania, 224.5 per cent. In each state shown in the table there was a large increase in production for the five-year period. This increase also appears in each of the different kinds of combination suits, except those made of merino yarn in which class small decreases appear in New York, Pennsylvania, and Rhode Island. Large gains in merino combination suits were reported, however, in other states, the increase in these goods for the United States being 33.4 per cent.

There was a small increase in both quantity and value of cardigan jackets, etc., and of hoods, scarfs, etc., during the five-year period. Ohio was the leading state in the manufacture of hoods and scarfs, reporting more than one-half of the total quantity and 45.9 per cent of the total value. In the production of sweaters and cardigan jackets, New York ranked first by a very wide margin, reporting 1,464,606 dozens in comparison with 304,550 dozens for Pennsylvania, its nearest competitor. The output for the former, however, represented a decrease of 11.6 per cent as compared with that of 1909, while in the latter state the output increased by 37.4 per cent.

There were fewer gloves and mittens manufactured in 1914 than in 1909, but their value increased materially. New York reported 54.3 per cent of all the gloves and mittens manufactured in the United States in 1914, and Pennsylvania ranked second with 12.6 per cent of the total. These two states reported an increase in quantity from 1909 to 1914, and each of the other states a decrease. Wisconsin, which ranked

second in 1909, dropped to fourth place in the later year.

The manufacture of boot and shoe linings and of eiderdown showed decreases, but jersey cloth and stockinette increased 240.5 per cent in quantity and 458.3 per cent in value, while astrakan and similar fabrics showed a gain of 352.2 per cent in quantity and 364.7 per cent in value. Rhode Island produced 85.7 per cent of all the knit boot and shoe linings. The manufacture of this class of goods is decreasing, the entire production being 3,505,169 square yards, or 36 per cent less in 1914 than in 1909. More than 80 per cent of the jersey cloth and stockinette was reported from New York, and nearly 60 per cent of the remainder from Pennsylvania. New York manufactured more than four times and Pennsylvania nearly seven times as great a quantity in 1914 as in 1909.

New York and Pennsylvania produced nearly 90 per cent of all the bathing suits reported in 1914. No comparable figures are available for this class of goods, the year 1914 being the first in which they were reported separately.

In the production of fancy knit goods, New York ranked first with Pennsylvania second. A wide variety of small articles are included under this heading and only their total value has been given.

The quantity of yarn manufactured for sale in 1914 was nearly two and one-half times greater than in 1909. Cotton yarn constituted 98.3 per cent of the total quantity in 1914 and 93.9 per cent in 1909.

Table 23 shows, by geographic divisions, for 1914, 1909, 1904, and 1899, the total value of products, the quantity of hosiery, shirts and drawers, combination suits, sweaters, etc., and gloves and mittens, and their combined value, and also the value of all other products as reported by establishments engaged in the hosiery and knit-goods industry.

The Middle Atlantic states are the center of production in the industry, but the output of this division was relatively less in 1914 than in 1909. In the manufacture of hosiery the South Atlantic division is advancing and in the production of sweaters the New England and East North Central divisions show a considerable increase at each successive census. The divisions aside from these four are of but little importance in this industry.

In total value of products in 1914, the East North Central division ranked second, New England third, and South Atlantic fourth, the East North Central division having passed New England since 1909. In the production of hosiery, the South Atlantic division ranked second and the East North Central division third.

Table 23

DIVISION AND YEAR.		Number of establishments.	PRODUCTS.							Value of all other products.
			Total value.	Principal products.						
				Value.	Quantity.					
					Hosiery (dozen pairs).	Shirts and drawers (dozens).	Combination suits (dozens).	Sweaters, cardigan jackets, etc. (dozens).	Gloves and mittens (dozen pairs).	
United States:										
1914.....		1,622	\$258,912,903	\$227,932,290	75,164,911	21,758,775	6,272,515	2,249,142	2,470,183	\$30,980,613
1909.....		1,374	200,143,527	182,895,882	62,825,069	25,337,779	2,473,103	2,221,410	2,527,889	17,247,645
1904.....		1,144	137,076,454	121,452,696	44,186,063	19,723,141	1,440,420	811,629	2,260,508	15,623,753
1899.....		1,006	95,833,692	84,530,353	29,903,899	15,873,700	986,855	594,090	1,898,587	11,303,339
New England:										
1914.....		161	33,425,513	29,997,133	8,356,560	2,287,144	720,076	111,774	38,164	3,428,380
1909.....		137	30,990,884	27,884,676	8,409,837	2,758,239	447,005	46,051	56,542	3,106,208
1904.....		136	24,807,979	20,068,978	6,222,109	2,336,507	170,992	17,446	81,159	4,739,001
1899.....		145	17,866,327	14,550,546	4,689,422	2,110,157	77,093	8,642	78,990	3,315,781
Middle Atlantic:										
1914.....		1,043	150,232,240	129,994,040	30,983,811	15,910,012	4,120,264	1,837,254	1,673,332	20,238,200
1909.....		861	120,598,043	111,280,584	29,039,220	19,374,641	1,436,323	1,948,808	1,480,071	9,317,459
1904.....		676	79,681,629	72,669,422	21,662,943	14,575,705	987,682	707,619	903,376	7,012,207
1899.....		610	59,739,128	55,046,869	16,187,522	12,284,987	760,234	537,791	649,883	4,692,259
East North Central:										
1914.....		197	38,295,010	33,631,736	10,223,443	1,147,069	654,933	268,232	758,656	4,663,274
1909.....		183	26,633,881	22,641,245	7,782,722	1,091,844	329,004	201,925	991,076	3,992,636
1904.....		159	18,435,357	15,073,180	5,331,986	821,134	115,684	70,635	1,275,973	3,362,177
1899.....		133	11,513,341	8,473,429	3,699,107	433,621	40,657	44,536	1,169,051	3,039,912
West North Central:										
1914.....		18	5,097,860	4,924,509	313,625	209,428	424,110	5,915	.....	173,351
1909.....		18	2,607,647	2,418,496	302,880	106,735	100,066	14,037	200	189,151
1904.....		10	1,202,586	1,080,253	128,219	150,954	.....	7,814	.....	122,333
1899.....		8	410,092	383,845	95,969	9,430	13,252	1,616	495	26,247
South Atlantic:										
1914.....		129	21,235,420	19,579,953	18,209,105	1,806,345	196,035	5,830	10	1,655,467
1909.....		119	13,770,901	13,423,965	13,070,504	1,585,542	134,858	90	.....	346,936
1904.....		100	9,243,665	9,028,126	7,739,948	1,558,064	155,159	50	.....	215,539
1899.....		72	5,087,402	5,015,089	4,065,999	1,034,640	93,967	.....	.....	72,313
East and West South Central:										
1914.....		36	8,989,952	8,551,051	7,072,247	391,632	141,999	1,865	.....	438,901
1909.....		33	4,581,498	4,405,383	4,213,253	406,439	4,000	.....	.....	176,115
1904.....		24	2,088,069	2,084,949	2,204,093	273,471	3,750	.....	.....	3,120
1899.....		4	395,150	395,150	543,500	.....	.....	.....	.....	.....
Mountain and Pacific:										
1914.....		38	1,636,908	1,253,868	6,120	7,145	15,098	18,272	21	383,040
1909.....		23	960,673	841,533	6,653	14,339	21,847	10,499	.....	119,140
1904.....		14	683,391	556,224	7,285	6,679	7,047	7,876	.....	127,167
1899.....		11	203,437	97,687	8,370	840	1,642	1,445	160	105,750
Production in states which can not be distributed by geographic divisions without disclosing individual operations:										
1914.....		25	933,778	891,564	889,480	627	106	189	8	42,214
1909.....		23	618,815	567,738	614,010	25	10	60	.....	51,077
Per cent of totals:										
New England—										
1914.....		9.9	12.9	13.2	11.1	10.5	11.5	5.0	1.5	11.1
1909.....		10.0	15.5	15.2	13.4	10.9	18.1	2.1	2.2	18.0
1904.....		11.9	18.1	16.5	14.1	11.8	11.9	2.1	3.6	30.3
1899.....		14.4	18.6	17.2	15.7	13.3	7.8	1.5	4.2	29.3
Middle Atlantic—										
1914.....		64.3	58.0	57.0	41.2	73.1	65.7	81.7	67.7	65.3
1909.....		62.7	60.3	60.8	46.2	76.5	58.1	87.7	58.5	54.0
1904.....		59.1	58.1	59.8	49.0	73.9	68.6	87.2	40.0	44.9
1899.....		60.6	62.3	65.1	54.1	77.4	77.0	90.5	34.2	41.5
East North Central—										
1914.....		12.1	14.8	14.8	13.6	5.3	10.4	11.9	30.7	15.1
1909.....		13.3	13.3	12.4	12.4	4.3	13.3	9.1	39.2	23.1
1904.....		13.9	13.4	12.4	12.1	4.2	8.0	8.7	56.4	21.5
1899.....		13.2	12.0	10.0	12.4	2.7	4.1	7.5	61.6	26.9
West North Central—										
1914.....		1.1	2.0	2.2	0.4	1.0	6.8	0.3	.....	0.6
1909.....		1.3	1.3	1.3	0.5	0.4	4.0	0.6	(1)	1.1
1904.....		0.9	0.9	0.9	0.3	0.8	.....	1.0	.....	0.8
1899.....		0.8	0.4	0.5	0.3	0.1	1.3	0.3	(1)	0.2
South Atlantic—										
1914.....		8.0	8.2	8.6	24.2	8.3	3.1	0.3	(1)	5.3
1909.....		8.7	6.9	7.3	20.8	6.3	5.5	(1)	.....	2.0
1904.....		8.7	6.7	7.4	17.5	7.9	10.8	(1)	.....	1.4
1899.....		7.2	5.3	5.9	13.6	6.5	9.5	(1)	.....	0.6
East and West South Central—										
1914.....		2.2	3.5	3.8	9.4	1.8	2.3	0.1	.....	1.4
1909.....		2.4	2.3	2.4	6.7	1.6	0.2	(1)	.....	1.0
1904.....		2.1	1.5	1.7	5.0	1.4	0.3	.....	.....	(1)
1899.....		0.5	0.4	0.5	1.8	.....	.....	.....	.....	.....
Mountain and Pacific—										
1914.....		2.3	0.6	0.6	(1)	(1)	0.2	0.8	(1)	1.2
1909.....		1.7	0.5	0.5	(1)	0.1	0.9	0.5	.....	0.7
1904.....		1.2	0.5	0.5	(1)	(1)	0.5	1.0	.....	0.8
1899.....		1.1	0.2	0.1	(1)	(1)	0.2	0.2	(1)	0.9
Production in states which can not be distributed by geographic divisions without disclosing individual operations—										
1914.....		2.2	0.7	0.7	2.0	(1)	(1)	(1)	.....	0.3
1909.....		2.3	0.7	0.7	2.1	(1)	(1)	(1)	(1)	0.5

¹ Less than one-tenth of 1 per cent.

Dyeing and finishing and contract work.—Table 24 gives the number of establishments dyeing and finishing their own goods, those doing such work for others, and those which do custom knitting or spinning. Only about 20 per cent of these mills do their own dyeing, as such work is generally done by establishments engaged particularly in dyeing and finishing textiles. More than three-fourths of the hosiery and knit-goods mills do their own finishing, however, but the number engaged in either dyeing and finishing or spinning and knitting on a custom basis is very small.

Table 24

ESTABLISHMENTS IN THE INDUSTRY: 1944.

STATE.	Total.	Dyeing their own goods.	Finishing their own goods.	Dyeing or finishing for others.	Doing custom spinning or knitting.
United States.....	1,622	416	1,487	69	97
Alabama.....	5	3	4		
California.....	16	1	14		
Connecticut.....	25	14	21		3
Georgia.....	22	18	22		
Illinois.....	46	9	43		2
Indiana.....	11	3	10		1
Maine.....	9	1	8		
Maryland.....	10	4	7	1	
Massachusetts.....	77	24	73	5	4
Michigan.....	31	16	32		2
Minnesota.....	13	4	13		2
New Hampshire.....	20	12	19		1
New Jersey.....	62	8	56	4	8
New York.....	483	91	429	38	50
North Carolina.....	74	44	56	1	2
Ohio.....	38	11	37		2
Pennsylvania.....	498	84	473	17	11
Rhode Island.....	23	6	22		1
South Carolina.....	6	5	6		
Tennessee.....	26	21	22	1	
Utah.....	11	3	11		
Vermont.....	7	6	7		1
Virginia.....	13	5	13	1	
Washington.....	10		10		
Wisconsin.....	63	15	66	1	7
All other states.....	15	8	13		

Cards and spindles.—Table 25 gives the number of cards and spindles used in the hosiery and knit-goods

industry in the United States in 1914, 1909, 1904, and 1899, and also the percentage of the total formed by each class in each year.

Table 25

CARDS AND SPINDLES EMPLOYED IN THE INDUSTRY.

CLASS.	Number.				Per cent of total.			
	1914	1909	1904	1899	1914	1909	1904	1899
Sets of cards.....	3,074	2,671	1,977	.....	100.0	100.0	100.0	.....
Woolen and shoddy.....	863	844	977	1,161	28.1	31.6	49.4	.....
Cotton.....	2,211	1,827	1,000	(1)	71.9	68.4	50.6	.....
Spindles.....	866,494	736,774	603,180	521,871	100.0	100.0	100.0	100.0
Producing.....	848,729	729,935	596,362	510,172	97.9	99.1	98.9	97.8
Woolen and shoddy.....	254,157	244,458	286,661	290,366	29.3	33.2	47.5	55.6
Worsted.....	2,585	2,360	9,664	14,064	0.3	0.3	1.6	2.7
Cotton.....	591,987	483,117	300,037	205,742	68.3	65.6	49.7	39.4
Doubling and twisting.....	17,765	6,839	6,818	11,699	2.1	0.9	1.1	2.2

¹ Not reported.

In 1899 only the total number of cards was reported without classification. The table shows the increasing proportion of cotton cards and spindles and the decreasing proportion of those used on woolen materials.

Table 26 gives, by states, statistics of cards and spindles for 1914 and 1909.

In the aggregate number of spindles, New York ranks first, with 43.1 per cent of the total; Massachusetts, second, with 18.8 per cent, and North Carolina, third, with 7.2 per cent. Large increases in the number of spindles appear in North Carolina (146 per cent), and Tennessee (166.4 per cent). Although mule spindles continue in the majority, frame spindles are increasing at a relatively higher rate. The increase from 1909 to 1914 in frame spindles was 111,974, or 38.2 per cent, while mule spindles increased by only 6,820, or 1.6 per cent.

Table 26

STATE.	Census year.	SETS OF CARDS.			Aggregate.	SPINDLES.					Doubling and twisting.
		Total.	Woolen and shoddy.	Cotton.		Producing.					
						Total.	Mule.		Frame.		
							Total.	Woolen, worsted, and shoddy.		Cotton.	
United States.....	1914	3,074	863	2,211	866,494	848,729	443,402	256,374	187,028	405,327	17,765
	1909	2,671	844	1,827	736,774	729,935	436,582	241,959	191,623	293,353	6,839
Alabama.....	1914	21	.....	21	6,144	6,144	.....	.....	.....	6,144	.....
	1909	30	.....	30	10,932	10,932	.....	.....	.....	10,932	.....
Connecticut.....	1914	125	86	39	37,356	37,152	37,012	22,112	14,900	140	204
	1909	144	114	30	54,108	53,904	52,904	29,768	23,136	1,000	204
Georgia.....	1914	181	.....	181	23,852	23,756	2,500	.....	2,500	21,256	96
	1909	139	.....	139	18,376	17,792	2,400	.....	2,400	15,392	584
Illinois.....	1914	9	8	1	5,904	5,136	5,136	5,136	.....	.....	768
	1909	59	11	48	18,384	16,896	6,312	6,312	.....	10,584	1,488
Massachusetts.....	1914	545	28	517	162,600	158,952	74,428	8,456	65,972	84,524	3,648
	1909	545	36	509	164,390	163,248	76,784	0,296	66,488	86,464	1,142
Michigan.....	1914	70	22	48	19,503	17,987	4,304	4,304	.....	13,683	1,516
	1909	67	15	52	19,316	18,344	5,528	4,412	1,116	12,816	972
New Hampshire.....	1914	85	71	14	26,898	26,874	24,050	22,898	1,152	2,824	24
	1909	81	66	15	20,939	20,742	17,918	16,750	1,168	2,824	197
New Jersey.....	1914	21	21	.....	7,303	7,303	7,254	7,254	.....	49	.....
	1909	44	32	12	9,582	9,582	9,582	9,582	.....	.....	.....

Table 26—Continued.

Table 26--Continued.	STATE.	Census year.	SETS OF CARDS.			SPINDLES.						
			Total.	Woolen and shoddy.	Cotton.	Aggregate.	Producing.					Doubling and twisting.
							Total.	Mule.			Frame.	
Total.	Woolen, worsted, and shoddy.	Cotton.										
New York.....	1914	1,285	479	806	373,245	367,171	193,267	140,691	52,576	173,904	6,074	
	1909	1,151	457	694	303,736	303,528	181,771	126,764	55,007	121,757	208	
North Carolina.....	1914	300		300	62,065	62,056	43,440		43,440	18,616	9	
	1909	92		92	25,232	24,944	13,264		13,264	11,680	288	
Ohio.....	1914	15	15		5,138	5,138	5,138	5,138				
	1909	13	13		4,670	4,670	4,670	4,670				
Pennsylvania.....	1914	74	34	40	26,240	22,476	14,282	10,050	4,232	8,194	3,764	
	1909	107	35	72	34,684	33,648	28,912	15,312	13,600	4,736	1,036	
South Carolina.....	1914	16		16	5,616	5,616				5,616		
	1909	16		16	6,640	6,640	5,616		5,616	1,024		
Tennessee.....	1914	186		186	31,686	31,644				31,644	42	
	1909	66		66	11,892	11,892				11,892		
Vermont.....	1914	19	19		5,364	5,364	5,364	5,364				
	1909	22	19	3	5,424	5,424	5,424	5,424				
Virginia.....	1914	19	19		7,050	7,050	7,050	7,050				
	1909	25		25	7,572	7,572	7,572		7,572			
Wisconsin.....	1914	27	25	2	9,161	7,777	7,777	7,777			1,384	
	1909	22	20	2	6,729	6,345	6,345	6,345			384	
All other states.....	1914	76	36	40	51,369	51,133	12,400	10,144	2,256	38,733	236	
	1909	48	26	22	14,168	13,832	11,580	9,324	2,256	2,252	336	

Table 27 shows, for 1914 and 1909, by states, the number of establishments with and without producing spindles, and also the number which reported 4,000 spindles or over, with the aggregate number of spindles in such mills.

Table 27

STATE.	Census year.	ESTABLISHMENTS IN THE INDUSTRY.					
		Total number.	Without producing spindles.	With producing spindles.			
				Total.		Having 4,000 spindles or over.	
				Number.	Number of spindles.	Number.	Number of spindles.
United States.....	1914	1,622	1,478	144	848,729	49	690,313
	1909	1,374	1,216	158	729,935	45	521,588
Alabama.....	1914	5	4	1	6,144	1	6,144
	1909	6	4	2	10,932	2	10,932
Connecticut.....	1914	25	15	10	37,152	4	18,392
	1909	21	6	15	53,904	5	31,260
Georgia.....	1914	22	16	6	23,756	4	21,216
	1909	22	17	5	17,792	2	8,480
Illinois.....	1914	46	45	1	5,136	1	5,136
	1909	43	41	2	16,896	2	16,896
Louisiana.....	1914	3	2	1	4,502	1	4,502
	1909	1	.....	1	4,500	1	4,500
Massachusetts.....	1914	77	69	8	158,952	3	147,896
	1909	65	56	9	163,248	4	151,160
Michigan.....	1914	34	26	8	17,987	1	13,680
	1909	35	28	7	18,344	1	12,768
New Jersey.....	1914	62	59	3	7,303	1	7,254
	1909	37	36	1	9,582	1	9,582
New York.....	1914	483	425	58	367,171	22	307,610
	1909	360	294	66	303,528	18	209,956
North Carolina.....	1914	74	70	4	62,056	3	59,248
	1909	62	59	3	24,944	2	22,136
Pennsylvania.....	1914	498	493	5	22,476	2	18,664
	1909	464	455	9	33,648	4	26,586
South Carolina.....	1914	6	5	1	5,616	1	5,616
	1909	7	6	1	6,640	1	6,640
Tennessee.....	1914	26	22	4	31,644	3	30,396
	1909	22	19	3	11,892	2	10,692
All other states.....	1914	261	227	34	98,834	2	44,559
	1909	229	195	34	54,085	.....	.....

In 1909 about 70 per cent of the spindles were in mills reporting 4,000 or over. In 1914 this proportion had increased to over 80 per cent. New York reported 58 establishments with producing spindles, 22 of which had 4,000 or more spindles each. In Pennsylvania, where there were 498 establishments, the largest number reported from any state, only 5 were equipped with producing spindles, 2 of which had 4,000 or more.

Knitting machines.—Table 28 shows, for 1914, 1909, 1904, and 1899, the various kinds of knitting machines used in the hosiery and knit-goods industry.

Table 28

KIND.	NUMBER OF KNITTING MACHINES EMPLOYED IN THE INDUSTRY.			
	1914	1909	1904	1899
Total.....	142,240	115,019	88,374	69,047
Power:				
Flat.....	12,243	10,423	6,964	6,714
Full-fashioned flat.....	5,852	3,388	3,542	2,361
Circular.....	54,050	48,142	39,409	32,470
Circular hosiery, automatic.....	59,894	44,676	31,961	21,693
All other.....	6,128	4,001	(1)	(1)
Hand (Lamb and other varieties).....	4,073	4,389	26,498	25,809
Spring-beard needle.....	16,376	17,680	13,899	14,513
Power—				
Flat—				
Ribbed.....	1,105	964	1,455	1,691
Plain.....	2,372	1,387	756	1,432
Full-fashioned flat—				
Ribbed.....	251	209	260	65
Plain.....	2,801	1,968	1,195	1,069
Circular—				
Ribbed.....	2,015	2,188	1,087	1,467
Plain.....	5,110	6,068	7,163	6,753
Circular hosiery, automatic.....	1,773	3,815	1,648	1,700
All other.....	711	709	(1)	(1)
Hand (Lamb and other varieties).....	238	372	335	336
Latch needle.....	125,864	97,339	74,475	54,534
Power—				
Flat—				
Ribbed.....	3,529	2,516	2,343	1,655
Plain.....	5,237	5,556	2,410	1,936
Full-fashioned flat—				
Ribbed.....	1,239	902	770	358
Plain.....	1,561	309	1,317	869

¹ Not reported.

² Not including machines used by manufacturers employing hand machines exclusively, which were not reported in 1904 and 1899.

Table 28—Continued. KIND.	NUMBER OF KNITTING MACHINES EMPLOYED IN THE INDUSTRY.			
	1914	1909	1904	1899
Latch needle—Continued.				
Power—Continued.				
Circular—				
Ribbed.....	35,326	30,080	24,452	17,490
Plain.....	11,599	9,806	6,707	6,760
Circular hosiery, automatic.....	53,121	40,861	30,313	19,993
All other.....	5,417	3,292	(1)	(1)
Hand (Lamb and other varieties).....	3,835	4,017	6,163	5,473
Per cent of total.....	100.0	100.0	100.0	100.0
Power.....	97.1	96.2	92.6	91.6
Flat.....	8.6	9.1	7.9	9.7
Full-fashioned flat.....	4.1	2.9	4.0	3.4
Circular.....	38.0	41.9	44.6	47.0
Circular hosiery, automatic.....	42.1	38.8	36.2	31.4
All other.....	4.3	3.5		
Hand (Lamb and other varieties).....	2.9	3.8	7.4	8.4
Spring-beard needle.....	11.5	15.4	15.7	21.0
Latch needle.....	88.5	84.6	84.3	79.0

¹ Not reported.

From 1909 to 1914 there was an increase of 27,221 machines, or 23.7 per cent, as compared with an increase of 26,645 machines, or 30.2 per cent, during the previous five-year period. This increase was

entirely in the power latch-needle machines, spring-beard needle machines showing a decrease as did all kinds of hand machines.

Table 29 gives, by states, the knitting-machine equipment of all mills in 1914 and 1909.

Each state, except Connecticut, South Carolina, and Vermont, shows an increase over 1909 in the number of knitting machines in use. The greatest relative increase (134.3 per cent) appears in New Jersey; Pennsylvania, with 51,422 machines, or 36.2 per cent of the total, reported the greatest number. New York, North Carolina, and Massachusetts were the only other states to report over 10,000 machines. The proportion of the circular automatic machines, the most numerous class, varied considerably in the different states. Pennsylvania reported the greatest number, 44.2 per cent of the total, but the number in New York was only 298, or five-tenths of 1 per cent of the total. More than one-half of the machines used in New York were of the circular pattern, either ribbed or plain.

Table 29

KNITTING MACHINES EMPLOYED IN THE INDUSTRY.

STATE.	Census year.	Total.	Power.								Hand (Lamb and other varie- ties).
			Flat.		Full-fashioned flat.		Circular.		Circular hosiery, automatic.	All other.	
			Ribbed.	Plain.	Ribbed.	Plain.	Ribbed.	Plain.			
ALL CLASSES.											
United States.....	1914	142,240	4,634	7,609	1,490	4,362	37,341	16,709	59,894	6,128	4,073
	1909	115,019	3,480	6,943	1,111	2,277	32,268	15,874	44,676	4,001	4,389
Alabama.....	1914	635					217	32	338	48	
	1909	429		28			136	8	257		
California.....	1914	360	36	93	14	22	46	60	13	10	66
	1909	228	8	102		1	30	24	20		43
Connecticut.....	1914	2,139	148	105	136	382	284	606	363	90	25
	1909	2,501	168	97	95	428	225	652	670	155	11
Delaware.....	1914	1,010	255				184		491	80	
	1909	917	5				227		612	66	7
Georgia.....	1914	4,699	8	238			1,095	52	3,292	14	
	1909	3,530					779	646	2,011	94	
Illinois.....	1914	6,048	48	837	223	515	843	111	944	2,088	439
	1909	5,521	23	1,980	66	15	831	441	1,575	39	551
Indiana.....	1914	1,516	3	59	29	263	511	24	614		13
	1909	1,050	99	42	15	190	310		354	23	17
Iowa.....	1914	383					116		267		
	1909	310	10				115		185		
Maine.....	1914	140	45	3		3	25		45	12	7
	1909	125	12				7	2	11		93
Maryland.....	1914	1,255	7			58	241	132	714	100	3
	1909	1,021					250		735	31	5
Massachusetts.....	1914	10,209	447	1,180	226	183	1,459	978	5,314	130	292
	1909	7,741	313	316	59	108	1,653	2,155	2,779	84	274
Michigan.....	1914	2,872	189	120	211	1	904	190	915	93	243
	1909	2,754	106	256	42	50	1,049	559	308	25	359
Minnesota.....	1914	651	66	27	9	8	372	7	62	80	20
	1909	497	19	29		10	255	25	102		57
New Hampshire.....	1914	3,600	5		2	76	1,156	18	2,163	100	80
	1909	2,902			1	18	1,168	152	1,345	123	95
New Jersey.....	1914	3,496	241	149	14	473	1,025	143	1,023	244	184
	1909	1,492	225	42	8	250	337	54	356	35	185
New York.....	1914	17,252	1,216	2,190	174	411	6,973	3,775	298	765	1,450
	1909	15,047	990	1,597	200	163	6,209	3,470	527	601	1,290
North Carolina.....	1914	10,959	287	111	100		1,791	1,269	6,903	498	
	1909	6,395	40	20	22		1,368	318	4,353	274	

Table 29—Continued.

Table 29—Continued.		KNITTING MACHINES EMPLOYED IN THE INDUSTRY.									
STATE.	Census year.	Total.	Power.							Hand (Lamb and other varieties).	
			Flat.		Full-fashioned flat.		Circular.		Circular hosiery, automatic.		All other.
			Ribbed.	Plain.	Ribbed.	Plain.	Ribbed.	Plain.			
ALL CLASSES—Continued.											
Ohio.....	1914	2,780	53	190	50	4	1,296	182	412	264	329
	1909	2,068	314	292	2	5	945	162	144	91	113
Pennsylvania.....	1914	51,422	1,020	1,729	211	1,750	12,532	6,158	26,491	1,233	298
	1909	44,960	833	1,794	274	806	11,315	5,226	22,523	1,812	377
Rhode Island.....	1914	1,864	42	7	4	107	570	503	525	98	8
	1909	1,669	14	20		73	542	661	357		2
South Carolina.....	1914	1,015	3				246	140	626		
	1909	1,375		6			470	48	786	65	
Tennessee.....	1914	6,749					2,875	865	2,896	113	
	1909	3,929	20	158			1,902	597	1,252		
Vermont.....	1914	471	35				250	30	156		
	1909	523	50				247	61	164		1
Virginia.....	1914	1,678					440	194	1,038	6	
	1909	1,304	10	84		100	386	130	450	144	
Wisconsin.....	1914	6,820	444	535	62	102	1,511	1,214	2,451	59	442
	1909	5,150	191	60	322	57	1,295	468	1,669	293	795
All other states.....	1914	2,217	36	36	25	4	379	26	1,540	3	168
	1909	1,581	30	20	5	3	217	15	1,131	46	114
SPRING-BEARD NEEDLE.											
United States.....	1914	16,376	1,105	2,372	251	2,801	2,015	5,110	1,773	711	238
	1909	17,680	964	1,387	209	1,968	2,188	6,068	3,815	709	372
Connecticut.....	1914	1,123	100	75	6	364	68	454		48	
	1909	1,428	141	97	3	428	20	599	140		8
Georgia.....	1914										
	1909	295						42	253		
Illinois.....	1914	52			7	7	3	9	11		15
	1909	71	4		24	4	4		21		14
Indiana.....	1914	468	1	58	29	263	111	6			
	1909	300	52	42	15	190					1
Massachusetts.....	1914	1,957	125	1,137	39	170	158	291	1	16	20
	1909	1,820	89	68	15	89	572	926	16	20	25
Michigan.....	1914	316	91	10			36	114	54		11
	1909	69	5	10			25	29			
New Hampshire.....	1914	128			2	11	15			100	
	1909	32			1	18	10	3			
New Jersey.....	1914	623	14	26	14	423	55		23	29	39
	1909	537	24		7	250	19	47	99	11	80
New York.....	1914	5,154	305	836	44	246	682	2,459	176	303	103
	1909	4,814	487	911	94	84	275	2,552	120	101	190
North Carolina.....	1914	286	66				36	156	12	16	
	1909	319	1				11	3	334		
Ohio.....	1914	210	16	26			115	10	43		
	1909	141	10	19			86	22	4		
Pennsylvania.....	1914	4,407	233	167	104	1,181	400	818	1,344	136	24
	1909	5,072	92	90	48	800	518	953	2,034	517	20
Rhode Island.....	1914	780	15		3	98	100	452	50	62	
	1909	675	7	8		73	19	559	9		
Tennessee.....	1914										
	1909	240					107	133			
Vermont.....	1914	198	35				133	30			
	1909	243	50				131	61			1
Virginia.....	1914	203					9	194			
	1909	208		78				130			
Wisconsin.....	1914	385	94	28	3	38	72	80	53		17
	1909	995	2	25	2	32	284	1	592	20	37
All other states.....	1914	86	10	9			22	37	6	1	1
	1909	391		39			107	8	193	40	4
LATCH NEEDLE.											
United States.....	1914	125,864	3,529	5,237	1,239	1,561	35,326	11,599	58,121	5,417	3,835
	1909	97,339	2,516	5,556	902	309	30,080	9,806	40,861	3,292	4,071
Alabama.....	1914	603					217		338	48	
	1909	401					136	8	257		
California.....	1914	354	36	91	14	22	46	57	13	10	65
	1909	223	8	101		1	29	22	20		42
Connecticut.....	1914	1,016	48	30	130	18	216	152	363	42	17
	1909	1,073	27		92		205	53	530	155	11
Delaware.....	1914	1,010	255				184		491	80	
	1909	917	5				227		612	66	7

Table 29—Continued.

Table 29—Continued.		Census year.	KNITTING MACHINES EMPLOYED IN THE INDUSTRY.									
			Total.	Power.							Hand (Lamb and other varieties).	
				Flat.		Full-fashioned flat.		Circular.		Circular hosiery, automatic.		All other.
				Ribbed.	Plain.	Ribbed.	Plain.	Ribbed.	Plain.			
LATCH NEEDLE—continued.												
Georgia.....	1914	4,699	8	238			1,095	52	3,292	14		
	1909	3,235					779	604	1,758	94		
Illinois.....	1914	5,996	48	837	216	508	840	102	933	2,088	424	
	1909	5,450	19	1,980	42	11	827	441	1,554	39	537	
Indiana.....	1914	1,048	2	1			400	18	614		13	
	1909	750	47				310		354	23	16	
Iowa.....	1914	383					116		267			
	1909	260	10				105		145			
Maine.....	1914	132	45	3		3	23		39	12	7	
	1909	125	12				7	2	11		93	
Maryland.....	1914	1,239	7			58	225	132	714	100	3	
	1909	1,020					250		735	31	4	
Massachusetts.....	1914	8,252	322	43	187	13	1,301	687	5,313	114	272	
	1909	5,921	224	248	44	19	1,081	1,229	2,763	64	249	
Michigan.....	1914	2,556	98	110	211	1	868	76	861	93	238	
	1909	2,685	101	246	42	50	1,024	530	308	25	359	
Minnesota.....	1914	638	58	27	9	8	368	7	62	79	20	
	1909	492	19	25		10	254	25	102		57	
New Hampshire.....	1914	3,472	5			65	1,141	18	2,163		80	
	1909	2,870					1,158	149	1,345	123	95	
New Jersey.....	1914	2,873	227	123		50	970	143	1,000	215	145	
	1909	955	201	42	1		318	7	257	24	105	
New York.....	1914	12,098	911	1,354	130	165	6,291	1,316	122	462	1,347	
	1909	10,233	503	686	106	79	5,934	918	407	500	1,100	
North Carolina.....	1914	10,673	221	111	100		1,755	1,113	6,891	482		
	1909	6,046	39	20	22		1,357	315	4,019	274		
Ohio.....	1914	2,570	37	164	50	4	1,181	172	369	264	329	
	1909	1,927	304	273	2	5	859	140	140	91	113	
Pennsylvania.....	1914	47,015	787	1,562	107	569	12,132	5,340	25,147	1,097	274	
	1909	39,888	741	1,704	226	6	10,797	4,273	20,489	1,295	357	
Rhode Island.....	1914	1,084	27	7	1	9	470	51	475	36	8	
	1909	994	7	12			523	102	348		2	
South Carolina.....	1914	1,015	3				246	140	626			
	1909	1,369					470	48	786	65		
Tennessee.....	1914	6,749					2,875	865	2,896	113		
	1909	3,689	20	158			1,795	464	1,252			
Vermont.....	1914	273					117		156			
	1909	280					116		164			
Virginia.....	1914	1,475					431		1,038	6		
	1909	1,096	10	6		100	386		450	144		
Wisconsin.....	1914	6,435	350	507	59	64	1,439	1,134	2,398	59	425	
	1909	4,155	189	35	320	25	1,011	467	1,077	273	758	
All other states.....	1914	2,206	34	29	25	4	379	24	1,540	3	168	
	1909	1,285	30	20	5	3	122	9	978	6	112	

Sewing machines.—Table 30 gives the total number of sewing machines used in the industry, by states, for 1914 and 1909.

The number of sewing machines employed in the industry in 1914 was 21,443 in excess of the number in 1909. This represents an increase of 48.9 per cent

during the five years, as compared with 44.3 per cent from 1904 to 1909. New York, with 25,280, and Pennsylvania, with 15,417, were the only states to report over 5,000 machines. The number in these two states constituted 62.3 per cent of the total in the United States.

Table 30

STATE.	SEWING MACHINES EMPLOYED IN THE INDUSTRY.		STATE.	SEWING MACHINES EMPLOYED IN THE INDUSTRY.		STATE.	SEWING MACHINES EMPLOYED IN THE INDUSTRY.		STATE.	SEWING MACHINES EMPLOYED IN THE INDUSTRY.	
	1914	1909		1914	1909		1914	1909		1914	1909
United States.....	65,328	43,885	Iowa.....	77	13	New Jersey.....	1,272	654	Tennessee.....	1,347	611
Alabama.....	185	115	Louisiana.....	36	4	New York.....	25,280	19,212	Utah.....	174	190
California.....	187	124	Maine.....	57	8	North Carolina.....	2,077	909	Vermont.....	493	499
Connecticut.....	1,221	859	Maryland.....	325	36	North Dakota.....	16		Virginia.....	854	837
Delaware.....	171	85	Massachusetts.....	4,338	2,869	Ohio.....	2,021	1,380	Washington.....	89	38
Georgia.....	780	721	Michigan.....	1,633	830	Oregon.....	21		West Virginia.....	175	1
Illinois.....	1,615	813	Minnesota.....	1,021	477	Pennsylvania.....	15,417	10,475	Wisconsin.....	1,537	694
Indiana.....	811	298	Mississippi.....	37	8	Rhode Island.....	900	578	All other states.....	15	45
			New Hampshire.....	953	398	South Carolina.....	193	104			

DETAIL STATE TABLES.

Table 31 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of mate-

rials, and value of products for the hosiery and knit-goods industry. Table 32 presents, for 1914, by states, the more detailed statistics for the industry.

TABLE 31.—COMPARATIVE SUMMARY, FOR 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Expressed in thousands.			STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Pri- mary horse- power.	Expressed in thousands.		
					Wages.	Cost of mate- rials.	Value of prod- ucts.						Wages.	Cost of mate- rials.	Value of prod- ucts.
United States.....	1914	1,622	150,520	125,842	\$59,758	\$146,687	\$258,913	New Jersey.....	1914	62	4,025	2,516	\$2,244	\$3,335	\$7,850
	1909	1,374	129,275	103,709	44,740	110,241	200,144		1909	37	2,506	1,477	903	1,826	3,810
	1904	1,144	104,092	78,769	31,615	76,789	137,076		1904	28	1,758	1,077	539	1,382	2,549
Alabama.....	1914	5	781	738	176	447	764	New York.....	1914	483	40,095	41,127	17,814	43,860	78,229
	1909	6	611	750	124	314	591		1909	360	35,950	35,882	14,839	38,677	67,130
	1904	8	505	805	93	254	460		1904	271	29,365	25,310	10,160	28,210	46,320
California.....	1914	16	405	146	197	424	902	North Carolina.....	1914	74	7,787	7,879	2,045	6,410	8,892
	1909	6	268	44	112	200	452		1909	62	5,151	4,024	1,080	3,012	5,152
	1904	5	222	21	88	146	357		1904	40	2,944	2,148	617	1,395	2,484
Connecticut.....	1914	25	2,904	3,365	1,296	2,727	5,222	Ohio.....	1914	38	3,411	2,740	1,502	5,033	8,654
	1909	21	3,340	3,540	1,363	3,049	5,801		1909	39	3,149	1,613	1,072	3,851	6,433
	1904	24	3,594	3,642	1,305	2,825	5,371		1904	¹ 28	2,490	1,221	714	2,177	3,997
Delaware.....	1914	3	496	185	148	314	506	Pennsylvania.....	1914	498	41,130	23,861	15,382	37,756	64,153
	1909	4	492	200	122	282	449		1909	464	38,206	21,797	11,750	27,218	49,658
	1904	7	323	275	75	164	296		1904	377	28,171	14,749	7,961	16,038	30,812
Georgia.....	1914	22	3,468	3,386	995	3,063	4,893	Rhode Island.....	1914	23	2,030	1,802	887	2,405	4,192
	1909	22	2,743	2,948	719	1,872	3,233		1909	17	1,774	1,626	635	2,444	3,866
	1904	21	1,935	2,095	396	1,417	2,326		1904	² 15	1,721	1,565	574	2,271	3,345
Illinois.....	1914	46	3,535	2,531	1,546	4,067	7,367	South Carolina.....	1914	6	771	589	187	499	749
	1909	43	2,913	3,452	1,116	3,232	5,947		1909	7	839	597	152	334	655
	1904	38	2,342	1,336	782	2,165	3,730		1904	14	1,058	890	187	586	1,079
Indiana.....	1914	11	2,338	1,985	1,022	2,029	3,748	Tennessee.....	1914	26	5,690	4,754	1,527	4,399	7,523
	1909	5	1,933	1,393	687	915	2,381		1909	22	3,117	2,758	724	2,120	3,565
	1904	5	1,720	1,415	510	1,105	2,105		1904	16	1,810	1,052	341	969	1,628
Maine.....	1914	9	71	127	32	82	145	Utah.....	1914	11	183	47	66	283	528
	1909	¹ 5	45	69	15	33	79		1909	11	174	80	53	292	419
	1904	3	56	2	13	18	34		1904	² 9	171	25	48	167	326
Maryland.....	1914	10	1,077	443	344	644	1,116	Vermont.....	1914	7	963	870	484	1,404	2,165
	1909	11	1,022	460	234	697	1,172		1909	8	946	962	411	1,089	1,746
	1904	² 4	876	405	196	531	952		1904	11	916	1,351	366	1,216	1,989
Massachusetts.....	1914	77	10,635	12,309	4,737	9,267	17,419	Virginia.....	1914	13	2,272	1,343	751	2,108	3,516
	1909	65	9,941	9,113	3,855	6,972	14,736		1909	11	1,715	1,079	503	1,467	2,463
	1904	62	8,119	10,390	2,842	5,021	10,095		1904	14	1,842	1,211	430	1,326	2,108
Michigan.....	1914	34	2,714	3,373	1,006	2,610	5,233	Wisconsin.....	1914	68	6,244	3,629	2,448	7,025	13,292
	1909	35	2,545	3,291	769	2,047	4,029		1909	61	4,282	2,312	1,579	3,887	7,843
	1904	38	3,085	2,501	709	1,844	3,624		1904	50	4,253	2,112	1,187	2,298	4,979
Minnesota.....	1914	13	2,088	2,149	892	2,526	4,665	All other states.....	1914	22	2,079	1,226	727	1,591	2,907
	1909	10	1,052	853	348	1,086	2,243		1909	21	1,432	1,074	432	689	1,527
	1904	10	615	316	190	626	1,203		1904	25	1,411	639	289	409	933
New Hampshire.....	1914	20	3,328	2,722	1,303	2,379	4,283								
	1909	21	3,129	2,315	1,143	2,636	4,764								
	1904	² 21	2,790	2,216	943	2,229	3,974								

¹ Excludes statistics for two establishments, to avoid disclosure of individual operations.

² Excludes statistics for one establishment, to avoid disclosure of individual operations.

TABLE 32.—DETAIL STATISTICS FOR THE HOSIERY

STATE.		Number of estab- lish- ments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS—DEC. 15 OR NEAREST REPRESENTATIVE DAY.						Capital.
			Total.	Pro- pri- etors and firm mem- bers.	Sala- ried offi- cers, su- perin- tend- ents, and man- agers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.			
						Male.	Fe- male.	Aver- age num- ber.	Number, 15th day of—			Male.	Fe- male.	Male.	Fe- male.		
									Maximum month.	Minimum month.							
1	United States.....	1, 622	159, 673	1, 298	2, 668	3, 125	2, 062	150, 520	Mh 157, 636	Au 142, 779	153, 438	42, 693	101, 586	2, 602	6, 557	\$215, 826, 340	
2	Alabama.....	5	801	1	8	8	3	781	Mh 845	Ja 742	789	204	462	46	77	733, 171	
3	California.....	16	484	10	14	33	22	405	De 442	Jy 377	435	65	367	1	2	871, 349	
4	Connecticut.....	25	3, 069	12	54	62	37	2, 904	Mh 2, 996	Au 2, 686	2, 923	881	1, 968	24	50	5, 796, 194	
5	Delaware.....	3	507	—	7	—	4	496	Je 523	De 472	507	63	366	11	67	229, 901	
6	Georgia.....	22	3, 602	3	59	57	15	3, 468	Ja 3, 581	De 3, 237	3, 641	1, 274	2, 047	138	182	3, 779, 510	
7	Illinois.....	46	3, 783	22	89	65	72	3, 535	De 3, 656	Au 3, 308	3, 683	1, 150	2, 449	11	73	7, 713, 754	
8	Indiana.....	11	2, 590	—	26	166	60	2, 338	My 2, 392	De 2, 201	2, 413	710	1, 527	63	113	3, 969, 142	
9	Maine.....	9	85	8	3	2	1	71	Se 164	My 10	155	108	47	—	—	201, 926	
10	Maryland.....	10	1, 119	5	16	15	6	1, 077	Je 1, 241	De 906	1, 099	252	806	8	33	1, 141, 063	
11	Massachusetts.....	77	11, 093	47	118	134	159	10, 635	Fe 11, 149	Se 9, 901	10, 904	2, 822	7, 877	37	168	15, 508, 770	
12	Michigan.....	34	3, 036	19	92	110	101	2, 714	Oc 2, 828	Ja 2, 616	2, 660	649	1, 972	10	29	5, 295, 553	
13	Minnesota.....	13	2, 275	10	31	52	94	2, 088	Mh 2, 150	Ja 1, 974	2, 105	306	1, 799	—	—	3, 733, 156	
14	New Hampshire.....	20	3, 417	13	31	18	27	3, 328	Ja 3, 632	Se 3, 079	3, 354	1, 022	2, 241	46	45	3, 918, 937	
15	New Jersey.....	62	4, 318	46	85	119	43	4, 025	Oc 4, 210	Ja 3, 873	4, 086	1, 526	2, 425	29	106	6, 812, 874	
16	New York.....	483	42, 603	443	586	876	603	40, 095	Mh 43, 107	Au 35, 580	41, 064	14, 060	26, 200	140	664	67, 471, 516	
17	North Carolina.....	74	8, 130	51	176	87	29	7, 787	Mh 8, 095	Oc 7, 276	8, 214	2, 532	4, 302	586	794	8, 227, 232	
18	Ohio.....	38	3, 730	13	97	128	81	3, 411	Mh 3, 709	No 3, 081	3, 526	807	2, 694	2	23	7, 135, 898	
19	Pennsylvania.....	498	43, 465	517	787	678	353	41, 130	Mh 42, 885	Au 39, 548	41, 832	8, 801	29, 081	930	3, 020	45, 722, 610	
20	Rhode Island.....	23	2, 127	9	39	24	25	2, 030	Fe 2, 218	De 1, 894	2, 041	386	1, 538	19	98	3, 163, 737	
21	South Carolina.....	6	791	2	12	4	2	771	De 847	Ap 732	818	280	367	72	99	734, 841	
22	Tennessee.....	26	5, 872	1	80	61	40	5, 690	Ap 6, 091	De 5, 201	5, 700	1, 886	3, 343	185	286	6, 064, 071	
23	Utah.....	11	250	7	20	29	11	183	Oc 233	Fe 110	192	22	166	1	3	375, 841	
24	Vermont.....	7	989	7	11	7	1	963	My 1, 090	Se 795	814	293	518	2	1	1, 394, 600	
25	Virginia.....	13	2, 335	7	21	26	9	2, 272	Ap 2, 361	Au 2, 150	2, 255	785	1, 215	98	157	2, 014, 390	
26	Washington.....	10	87	8	9	8	2	60	Oc 98	Je 34	88	26	62	—	—	157, 241	
27	Wisconsin.....	68	6, 985	34	166	291	250	6, 244	Fe 6, 523	No 6, 016	6, 139	1, 338	4, 456	65	280	10, 953, 219	
28	All other states ³	12	2, 130	3	31	65	12	2, 019	.....	.....	2, 001	445	1, 291	78	187	2, 705, 844	

¹ Owned power only.² Includes rented power, other than electric.

AND KNIT-GOODS INDUSTRY, BY STATES: 1914.

EXPENSES.								Value of products.	Value added by manufacture.	POWER.						
Salaries and wages.			For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.	
Officials.	Clerks, etc.	Wage earners.		Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal combustion engines. ²	Water wheels and motors. ¹	Electric (rented).		
\$6,230,416	\$5,050,619	\$59,758,151	\$3,239,695	\$1,264,288	\$1,091,309	\$144,000,501	\$2,686,957	\$258,912,903	\$112,225,445	125,842	80,884	4,031	14,643	26,284	19,833	1
18,375	10,553	176,380	-----	455	2,159	438,152	9,030	764,408	317,226	738	650	-----	-----	88	-----	2
51,670	41,245	197,151	592	14,447	3,888	419,928	3,931	902,211	478,352	146	-----	40	-----	106	-----	3
160,278	112,129	1,296,113	1,538	15,264	54,999	2,673,227	53,344	5,221,683	2,495,112	3,365	2,590	-----	650	125	402	4
11,206	2,184	147,601	-----	600	889	308,118	5,556	505,668	191,994	185	175	-----	-----	10	-----	5
99,278	80,703	994,920	885	345	22,434	2,952,709	110,143	4,892,931	1,830,079	3,386	1,710	35	-----	1,641	144	6
205,437	133,034	1,546,122	123,407	80,554	37,951	3,983,157	83,482	7,367,235	3,300,596	2,531	1,165	34	-----	1,332	460	7
87,163	270,285	1,021,851	54,363	2,586	19,978	1,997,954	31,016	3,748,382	1,719,412	1,985	1,210	-----	191	584	607	8
2,725	1,408	31,794	-----	1,304	771	80,008	1,997	145,276	63,271	127	84	-----	5	38	-----	9
24,420	20,331	344,305	150	4,212	3,089	627,747	15,762	1,115,701	472,192	443	320	40	-----	83	214	10
382,160	236,523	4,736,698	64,118	53,749	158,269	9,032,580	234,091	17,419,077	8,152,406	12,309	7,666	317	2,715	1,611	1,531	11
187,799	136,105	1,006,335	4,515	13,165	51,432	2,537,436	72,999	5,232,985	2,622,550	3,373	1,431	770	370	802	422	12
110,128	238,698	891,626	-----	9,778	18,343	2,502,914	23,505	4,665,325	2,138,906	2,149	1,850	27	-----	272	723	13
90,138	31,287	1,303,138	4,554	1,518	33,954	2,329,259	50,161	4,282,739	1,903,319	2,722	700	10	1,733	279	123	14
225,050	196,885	2,243,889	185,981	37,475	28,422	3,259,219	76,203	7,849,556	4,514,134	2,516	1,644	197	155	520	1,328	15
1,668,909	1,383,549	17,814,148	1,517,566	376,071	288,574	42,965,846	894,033	78,229,235	34,369,356	41,127	27,039	521	5,820	7,747	5,526	16
237,384	91,848	2,045,492	11,779	3,048	59,453	6,229,247	180,412	8,892,362	2,482,703	7,879	4,448	152	1,960	1,319	1,449	17
301,892	221,386	1,502,400	73,564	80,268	37,234	4,969,276	63,249	8,654,103	3,621,578	2,740	1,670	96	-----	974	1,034	18
1,431,804	874,025	15,382,310	1,103,541	439,683	102,300	37,313,244	443,057	64,153,449	26,397,148	23,861	16,639	1,507	775	4,940	3,803	19
137,065	90,466	887,196	104	18,105	22,891	2,360,979	43,623	4,191,841	1,787,239	1,802	1,345	70	35	352	374	20
18,400	4,625	187,121	2,687	1,245	6,280	484,251	14,893	749,394	250,250	589	505	60	-----	24	7	21
183,660	130,335	1,527,474	62,750	8,323	23,016	4,323,380	75,790	7,522,846	3,123,676	4,754	3,203	-----	-----	1,551	134	22
21,402	36,253	65,847	-----	1,780	2,789	279,429	3,245	528,325	245,651	47	-----	-----	-----	47	-----	23
23,876	11,499	483,818	8,291	10,935	9,154	1,373,040	30,922	2,164,897	760,935	870	515	-----	234	121	150	24
78,329	38,080	751,027	-----	26,372	10,708	2,071,435	36,305	3,515,916	1,408,176	1,343	1,220	15	-----	108	408	25
11,369	5,755	27,335	100	6,522	836	72,796	1,004	166,566	92,766	28	-----	-----	-----	28	-----	26
364,109	558,993	2,448,347	19,210	50,306	84,336	6,929,905	95,327	13,292,305	6,267,073	3,629	2,625	140	-----	864	919	27
96,390	92,435	697,713	-----	6,178	7,160	1,485,265	33,877	2,738,487	1,219,345	1,198	480	-----	-----	718	75	28

¹ All other states embrace: Iowa, 3 establishments; Kansas, 1; Kentucky, 1; Louisiana, 3; Mississippi, 1; North Dakota, 1; Oregon, 1; West Virginia, 1.

THE SILK INDUSTRY.

By CLYTUS A. FREEMAN.

SUMMARY AND ANALYSIS.

Scope of the industry.—The silk-manufacturing industry includes the manufacture of finished silk products, such as woven fabrics; braids; trimmings; sewing, embroidery, and floss silks; machine twist, etc., whether the preliminary throwing is done or not; and also the manufacture of thrown silk (known technically as organzine and tram), and spun silk.¹ The concerns engaged only in the manufacture of organzine and tram are known as throwsters; with these are included winders and manufacturers of spun-silk yarn, the former performing the work of winding or rewinding from skeins to spools, bobbins, quills, etc., or from skeins, spools, etc., of one size to those of another. Statistics in this report are for

the industry as a whole, except in a few instances where the presentation of the two separate branches is deemed advantageous. Establishments engaged primarily in the manufacture of silk hosiery and knit goods are not here included, but appear under the hosiery and knit goods industry. Silk used in other industries such as cotton and wool manufactures, electrical supplies, etc., is also accounted for under other classifications.

Summary for the industry, 1914 and 1909.—Table 1 summarizes the statistics of the silk-manufacturing industry as a whole for 1914 and 1909, and gives percentages of increase for the various items shown.

Table 1

Table 1	SILK-MANUFACTURING INDUSTRY.												
	1914			1909			Per cent of total.				Per cent of increase: 1909-1914. ¹		
	Total.	Establishments engaged primarily in—		Total.	Establishments engaged primarily in—		1914		1909		Total.	Fin- ished silk prod- ucts.	Throw- ing, etc.
		Manufac- turing fin- ished silk products.	Throwing, winding, etc., only (throw- sters).		Manufac- turing fin- ished silk products.	Throwing, winding, etc., only (throw- sters).	Fin- ished silk prod- ucts.	Throw- ing, etc.	Fin- ished silk prod- ucts.	Throw- ing, etc.			
Number of establishments.....	902	695	207	852	660	192	77.1	22.9	77.5	22.5	5.9	5.3	7.8
Persons engaged.....	115,571	96,551	19,020	105,238	88,496	16,742	83.5	16.5	84.1	15.9	9.8	9.1	13.6
Proprietors and firm members..	591	480	111	664	536	128	81.2	18.8	80.7	19.3	-1.0	-10.4	-13.3
Salaried employees.....	6,810	6,104	706	5,537	4,964	573	89.6	10.4	89.7	10.3	23.0	23.0	23.2
Wage earners (average number)	108,170	89,967	18,203	99,037	82,996	16,041	83.2	16.8	83.8	16.2	9.2	8.4	13.5
Primary horsepower.....	116,924	83,534	33,390	97,947	(2)	(2)	71.4	28.6	.....	.....	19.4	.....	.....
Capital.....	\$210,071,679	\$173,461,635	\$36,610,044	\$152,158,002	\$137,384,634	\$14,773,368	82.6	17.4	90.3	9.7	38.1	26.3	147.8
Salaries and wages.....	57,615,374	51,590,670	6,024,704	46,097,364	41,387,219	4,710,145	89.5	10.5	89.8	10.2	25.0	24.7	27.9
Salaries.....	10,506,905	9,474,269	1,032,636	7,527,279	6,768,662	758,617	90.2	9.8	89.9	10.1	39.6	40.0	36.1
Wages.....	47,108,469	42,116,401	4,992,068	38,570,085	34,618,557	3,951,528	89.4	10.6	89.8	10.2	22.1	21.7	26.3
Paid for contract work.....	14,550,762	14,037,432	513,330	12,008,744	11,732,001	276,743	96.5	3.5	97.7	2.3	21.2	19.7	85.5
Rent and taxes (including internal revenue).....	2,031,897	1,806,819	225,078	1,570,381	(2)	(2)	88.9	11.1	.....	.....	29.4	.....	.....
Cost of materials.....	144,442,321	131,797,946	12,644,375	107,766,916	101,809,780	5,957,136	91.2	8.8	94.5	5.5	34.0	29.5	112.3
Value of products.....	254,011,257	232,692,381	21,318,876	196,911,667	183,720,353	13,191,314	91.6	8.4	93.3	6.7	29.0	26.7	61.6
Value added by manufacture (value of products less cost of materials)...	109,568,936	100,894,435	8,674,501	89,144,751	81,910,573	7,234,178	92.1	7.9	91.9	8.1	22.9	23.2	19.5

¹ A minus sign (—) denotes decrease.

² Figures not available.

The figures for 1909, as given in the table for the two branches of the industry, differ slightly from those published in 1909, on account of changes in the classification of certain schedules in order to make the statistics for the two dates strictly comparable.

Many establishments do not include the entire process of silk manufacture in their operations, a fre-

¹ Organzine and tram constitute, respectively, the warp and the weft (or filling) of silk fabrics, and are made from the best grades of the raw material by the process of throwing (manufacturing the raw silk into yarn). Spun silk is produced by spinning waste silk of any sort in much the same manner as wool yarn is spun.

quent practice being for a weaving mill to buy the raw silk and have it thrown on a commission basis by an independent throwing plant. Although the establishments engaged solely in throwing, winding, etc., in 1914 formed more than one-fifth of the total number of establishments included in the industry and employed more than one-sixth of the total number of wage earners, they reported only 8.8 per cent of the total cost of materials and 8.4 per cent of the total value of products. This is due to the fact that many of the throwsters operated on a commission basis and reported no cost of materials and only the amount received for

work done as value of products; the establishments for which the throwing was done reported the cost of the thrown silk in their cost of materials and the amount paid for throwing as contract work, one of the items of expense.

Statistics of the cost of materials and value of products for the silk-manufacturing industry as a whole involve considerable duplication, due to the large amount of commission work done by some silk mills for others in the industry, and to the sale of partially

manufactured products for use as materials in further manufacturing processes.*

Comparison with earlier censuses.—Table 2 summarizes the statistics of the industry as a whole for each census from 1869 to 1914, inclusive, and gives percentages of increase. The financial figures for 1869 are given in currency which at that time was worth only about 80 cents, gold, to the dollar. For strict comparison, therefore, these figures for 1869 should be reduced about 20 per cent.

	NUMBER OR AMOUNT.							PER CENT OF INCREASE. ¹					
	1914	1909	1904	1899	1889	1879	1869	1909-1914	1904-1909	1899-1904	1889-1899	1879-1889	1869-1879
Number of establishments.....	902	852	624	483	472	382	86	5.9	36.5	29.2	2.3	23.6	.....
Persons engaged.....	115,571	105,238	84,153	68,550	(2)	(2)	(2)	9.8	25.1	22.8	.....	.....	.....
Proprietors and firm members.....	591	664	525	477	(2)	(2)	(2)	-11.0	26.5	10.1	.....	.....	.....
Salaried employees.....	6,810	5,537	4,027	2,657	(2)	(2)	(2)	23.0	37.5	51.6	.....	.....	.....
Wage earners (average number).....	108,170	99,037	79,601	65,416	49,382	31,337	6,649	9.2	24.4	21.7	(3)	(3)	(3)
Primary horsepower.....	116,924	97,947	71,760	57,397	29,638	8,810	1,911	19.4	36.5	25.0	93.7	236.4	361.0
Capital.....	\$210,071,679	\$152,158,002	\$109,556,621	\$81,082,201	\$51,007,537	\$19,125,300	\$6,231,130	38.1	38.9	35.1	59.0	166.7	205.9
Salaries and wages.....	57,615,374	46,097,364	31,510,213	24,116,546	19,680,318	9,146,705	1,942,286	25.0	46.3	30.7	22.5	115.2	370.9
Salaries.....	10,506,905	7,527,279	4,742,270	3,134,352	(2)	(2)	(2)	39.6	58.7	51.3	.....	.....	.....
Wages.....	47,108,469	38,570,085	26,767,943	20,982,194	(2)	(2)	(2)	22.1	44.1	27.6	.....	.....	.....
Paid for contract work.....	14,550,762	12,008,744	6,859,586	6,570,299	(2)	(2)	(2)	21.2	75.1	4.4	.....	.....	.....
Rent and taxes.....	4,203,897	4,157,381	4,040,334	4,829,923	(2)	(2)	(2)	29.4	.....	25.4	.....	.....	.....
Cost of materials.....	144,442,321	107,766,916	75,861,188	62,406,665	51,004,425	22,467,701	7,817,559	34.0	42.1	21.6	22.4	127.0	187.4
Value of products.....	254,011,257	196,911,667	133,288,072	107,256,258	87,298,454	41,033,045	12,210,662	29.0	47.7	24.3	22.9	112.8	236.0
Value added by manufacture (value of products less cost of materials).....	109,568,936	89,144,751	57,426,884	44,849,593	36,294,029	18,565,344	4,393,103	22.9	55.2	28.0	23.6	95.5	322.6

¹ A minus sign (—) denotes decrease. Percentages are omitted when base is less than 100.
³ Figures not strictly comparable.

⁴ Includes internal revenue.

² Figures not available.
⁵ Excludes internal revenue.

*The amount paid for contract work shown in Table 1, \$14,550,762, was largely payments made to other establishments within the industry for throwing organzine and tram or to dyeing and finishing establishments for the dyeing, printing, or finishing of silk goods for the establishments reporting the payments. Establishments to which these payments were made, on the other hand, paid out the greater part of the amounts thus received for wages, materials, and other expenses, thus duplicating the total expenses reported for the industry. Similarly, the establishments throwing or dyeing and finishing under contract reported the amounts received for this work in their value of products, while the cost of such contract work is one of the elements entering into the value of products of the establishments for which the work was done, so that a duplication thus arises in the total value of products for the industry as a whole.

It is impossible to determine the exact amount of duplication arising from the causes mentioned, since no segregation can be made between the amounts reported as receipts for contract work by establishments within the industry and the receipts for work done for merchants and for establishments in other industries. The total amount reported as received for contract work by establishments within the industry (\$8,400,607) represents approximately the maximum amount of duplication in expenses and value of products resulting from this factor, although the actual duplication is probably somewhat less. The difference (\$6,150,155) between payments and receipts for contract work within the industry represents approximately the payments for such work to establishments outside the industry.

Duplication also arises in the cost of materials and value of products from the fact that some establishments within the industry sell partially manufactured products, such as organzine, tram, and spun silk to other establishments in the industry for use as materials in further manufacturing processes. The value of such products is, of course, included in the value of products of the establishments reporting them, and also enters into the value of products of the establishments using them as materials, while the cost of materials from which they were made constitutes part of the cost of materials of the establishment manufacturing them, and also enters into the cost of materials of the establishments using these products as materials for further manufacture. Since the total amount of this class of materials reported as used exceeds the amount reported as made for sale, the value of the latter (\$20,600,986) may be assumed to represent the maximum amount of duplication in the total value of products for the industry, although, as some of these products were sold to concerns outside the industry, the actual amount of duplication was less; it is, however, impossible to determine the

extent to which these products were purchased by concerns outside the industry. The maximum duplication in the total value of products is, therefore, estimated to be \$29,001,593, or 11.4 per cent of the total value of products. The actual duplication in the value of products was undoubtedly somewhat less, but a more accurate computation can not be made. The actual duplication in cost of materials was somewhat less than the duplication in value of products, since the latter includes the value added to the raw materials by manufacture in the establishments transforming them into the partly manufactured products, but no segregation can be made between the materials entering into these products and those on which all the manufacturing processes to which they were subjected within the industry were performed in the same establishment. At the same time it should be noted that the amount obtained by subtracting the figure above from the total cost of materials for the industry is more significant than that which would be obtained by merely eliminating the actual duplication, for the reason that it more nearly represents the original cost of the materials transformed by the manufacturing processes performed within the industry.

Some partially manufactured products are imported, but how much of these are used in silk manufacture, and how much used in other textile mills, it is impossible to determine. Some of these products are made on commission for dealers and merchants, from whom the Census Bureau secures no reports and are therefore not included in statistics for the industry. The items involving duplication together with the amounts of these materials secured by importation and the amounts used as materials in other lines of textile manufacture are shown in the following statement:

	Pounds.	Cost.
<i>Materials.</i>		
Purchased organzine, tram, and spun silk used in the silk industry.....	7,065,208	\$24,797,523
Purchased organzine, tram, and spun silk used in the manufacture of cotton, wool, and hosiery and knit goods.....	3,563,294	13,156,610
Total.....	10,628,502	37,954,133
<i>Partially manufactured products available for further use in manufacture.</i>		
Organzine, tram, and spun silks made for sale in the silk industry.....	5,677,817	20,600,986
Imports of organzine, tram, and spun silk.....	2,590,432	6,915,291
Total.....	8,268,249	27,516,277

Statistics for the silk-manufacturing industry were first obtained at the census of 1849 when 67 establishments, employing an average of 1,723 operatives, and manufacturing products valued at \$1,809,476, were reported. At the census of 1859 there were 139 establishments, giving employment to an average of 5,435 operatives, and manufacturing products valued at \$6,607,771. The figures for 1869 include those for establishments that reported silk hose and silk knit goods as their products of chief value, while such establishments are now classified under the hosiery and knit goods industry. As the volume of business of such establishments was comparatively small at that time, this inclusion does not materially affect the comparability of the figures for the different censuses.

During the 15 years, 1899 to 1914, the number of

silk mills nearly doubled; wage earners increased 65.4 per cent, value of products advanced 136.8 per cent, and value added by manufacture 144.3 per cent. While the last censuses each mark a period of development in the industry, the greatest relative growth was from 1904 to 1909, when wage earners increased 24.4, value of products 47.7 per cent, and value added 55.2 per cent.

Summary, by states.—Table 3 presents the more important statistics of the industry as a whole, by states, the states being arranged according to the value of products reported for 1914. The states shown in this table are given their actual ranking among all the states, the rank of certain states for which figures can not be presented being higher than that of some of those enumerated in the table.

STATE.	SILK-MANUFACTURING INDUSTRY: 1914.												PER CENT OF INCREASE. ¹								
	Number of establishments.	Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number).			Value of products.			Value added by manufacture.				
		Average number.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909
United States.....	902	108,170	100.0	...	\$254,011,257	100.0	...	\$109,568,936	100.0	...	9.2	24.4	21.7	29.0	47.7	24.3	22.9	55.2	28.0	...	...
Pennsylvania.....	284	44,755	41.4	1	86,938,554	34.2	1	38,143,073	34.8	1	22.7	35.5	28.0	40.1	57.8	26.6	41.8	78.5	34.7	...	...
New Jersey.....	368	28,263	26.1	2	75,706,449	29.8	2	34,823,584	31.8	2	6.7	18.9	5.5	15.7	52.6	7.2	8.3	56.7	11.9	...	...
Connecticut.....	44	10,668	9.9	4	30,591,825	12.0	3	12,185,573	11.1	4	22.6	11.7	19.6	45.2	34.8	26.2	32.0	41.4	26.0	...	...
New York.....	143	11,659	10.8	3	29,260,763	11.5	4	12,524,542	11.4	3	9.6	14.4	43.5	10.3	31.4	58.8	0.4	29.7	57.9	...	...
Massachusetts.....	19	4,495	4.2	5	10,676,681	4.2	5	4,715,544	4.3	5	9.4	26.0	4.9	19.4	27.5	17.7	34.3	23.0	33.8	...	...
Rhode Island.....	12	2,325	2.1	6	7,664,472	3.0	6	2,337,878	2.1	6	38.0	30.5	183.7	67.2	79.3	95.0	67.5	62.3	74.8	...	...
Virginia.....	9	691	0.6	12	1,772,931	0.7	10	679,079	0.6	8	15.6	...	...	14.8	...	...	27.4	...	...	...	...
Maryland.....	5	874	0.8	9	910,882	0.4	12	487,367	0.4	12	33.4	274.3	...	77.9	87.5	...	77.1	169.6	...	...	...
All other states ²	18	4,440	4.1	...	10,488,700	4.1	...	3,672,296	3.4	...	...	...	...	...	...	...	...	...	...	...	...

¹ A minus sign (—) denotes decrease. Percentages are based on figures in Table 33.

² All other states embrace: California, 1 establishment; Delaware, 1; Georgia, 1; Illinois, 3; Maine, 1; Michigan, 2; New Hampshire, 2; North Carolina, 4; Ohio, 1; West Virginia, 1; Wisconsin, 1.

The silk-manufacturing industry is confined to 19 states, all of which, except California, where there was only one establishment, are located east of the Mississippi River. The industry in the southern states is represented by 21 establishments located in Maryland, Delaware, West Virginia, Virginia, North Carolina, and Georgia.

Pennsylvania is the leading state in the industry, the value of its product being more than one-third of the total silk manufactures in the United States in 1914, and the number of wage earners employed in the silk mills of the state representing more than two-fifths of the entire number employed in the 19 states reporting. More wage earners have been employed in silk manufacture in Pennsylvania at each of the last three censuses than in any other state, and in 1914 the number employed formed a relatively larger proportion of the total for the industry than did its value of products or value added by manufacture. This is due to the fact that many establishments in Pennsylvania are engaged in throwing raw silk into organzine and tram for further processes of manufacture outside the state, and since such establishments con-

fine their operations largely to contract work, their value of products does not include the value of the organzine and tram produced, but consists mainly of the amount received for work done. Prior to 1914, New Jersey was for many years the ranking state in the value of silk products, but employed fewer wage earners than Pennsylvania both in 1909 and 1904.

The industry is concentrated in a much smaller area in New Jersey than in any other state; 79.1 per cent of the establishments in this state were located within the city limits of Paterson, these establishments reporting 59 per cent of the total value of products of the state. Most of the remaining establishments in New Jersey were located in Passaic County, in which the city of Paterson is situated, or in the counties immediately adjoining. In Pennsylvania the industry is chiefly concentrated in the eastern half of the state, in the mill towns on the Susquehanna, Schuylkill, and Lehigh Rivers.

New Jersey and Pennsylvania together reported about two-thirds of the total number of wage earners and total value of products for the industry in 1914. New York ranked third in number of wage earners and

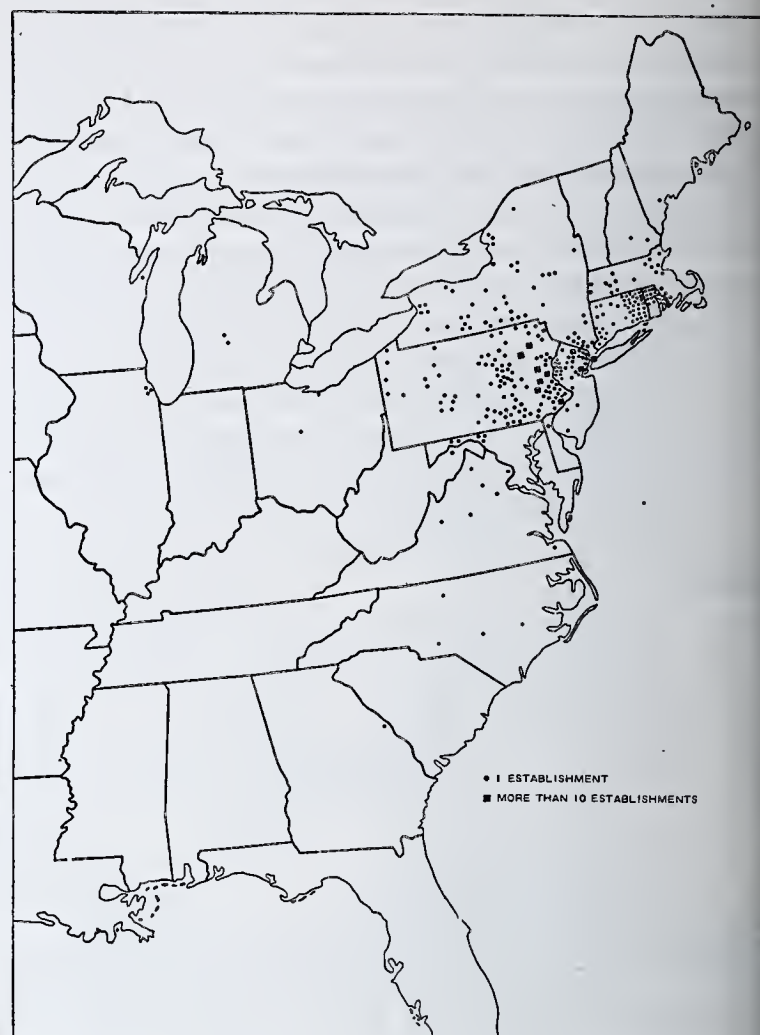
fourth in value of products, in 1914, and third in each respect in 1909, 1904, and 1899. Rhode Island, while not an important state in the industry as measured by value of products, shows the largest percentages of increase from 1899 to 1914 of any of the states for which figures are given in the table, the gain in the number of wage earners being 411 per cent, and that in value of products 484.6 per cent. The distribution of the establishments by states is shown for 1914 on the accompanying map. Ten counties (considering Greater New York as one county) reported more than 10 establishments each. They are indicated on the map by means of a square. The establishment located in Sonoma County, California, is the only plant not shown on the map.

The counties in the map having more than 10 establishments, together with the number of establishments in each county, are:

NEW YORK:		PENNSYLVANIA—(continued).	
Greater New York.....	94	Northampton County.....	23
NEW JERSEY:		Lehigh County.....	39
Hudson County.....	31	Berks County.....	11
Passaic County.....	306	Carbon County.....	11
PENNSYLVANIA:		Lackawanna County.....	41
Philadelphia.....	32	Luzerne County.....	30

The industry was largely centralized in a few cities. The statement below gives the number of establishments, value of products, and the proportion of the total silk manufactures in the United States represented by each of the five leading cities in the industry in 1914, 1909, and 1904.

THE SILK INDUSTRY—DISTRIBUTION OF ESTABLISHMENTS BY STATES: 1914.



	Census year.	Total for the United States.	Total for United States exclusive of five leading cities.	FIVE LEADING CITIES IN THE INDUSTRY.					
				Total.	Paterson, N. J.	New York, N. Y.	Allentown, Pa.	Philadelphia, Pa.	Scranton, Pa.
Number of establishments.....	1914	902	444	458	291	94	22	32	19
	1909	852	396	456	276	118	15	32	15
	1904	624	300	324	190	84	9	31	10
Value of products.....	1914	\$254,011,257	\$170,128,632	\$83,882,625	\$44,672,401	\$15,008,138	\$10,209,972	\$8,237,255	\$5,754,859
	1909	\$196,911,667	\$119,015,312	\$77,896,355	\$40,358,271	\$16,949,664	\$7,455,528	\$6,502,044	\$6,630,848
	1904	\$133,288,072	\$80,411,780	\$52,876,292	\$25,433,245	\$14,035,970	\$3,901,249	\$5,079,193	\$4,426,635
Per cent which value of products forms of total for the United States.	1914	100.0	67.0	33.0	17.6	5.9	4.0	3.2	2.3
	1909	100.0	60.4	39.6	20.5	8.6	3.8	3.3	3.4
	1904	100.0	60.4	39.6	19.1	10.5	2.9	3.8	3.3

More than half of the silk mills of the country are located in the five cities enumerated. The combined production of these cities in 1914 was valued at \$83,882,625, or one-third of the total amount reported for the industry. This figure represents an increase of 58.6 per cent during the decade, but a decrease of 6.6 per cent in the proportion of the total output contributed by the five cities in 1914 as compared with 1904. The value of Paterson's production at the last two censuses was greater than that of the other cities combined.

Persons engaged in the industry.—Table 4 shows, for 1914 and 1909, the number of persons engaged in the industry as a whole, distributed by sex, and the average number of wage earners distributed by age also. The sex and age classification of the average

number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

The aggregate number of persons engaged in the silk-manufacturing industry in 1914 was 115,571, an increase of 10,333, or 9.8 per cent, over 1909. Of the different classes of employees, wage earners represented 93.6 per cent, clerks and other salaried employees 4.4 per cent, and proprietors and officials 2 per cent. Each of these classes shows an increase over 1909 and their proportion of the total persons employed differs only slightly from that of the previous census.

The number of females engaged in the industry in 1914 was considerably in excess of the number of males, the proportion which the two sexes formed

of the total being 56.8 per cent and 43.2 per cent, respectively. Relatively fewer women were employed in 1914 than in 1909, however, when they represented 59.9 per cent of the total. Of the total wage earners employed in 1914, 59.2 per cent were females, as compared with 62.6 per cent in 1909. The decrease during the five years in the number of wage earners under 16 years of age was confined to the females of that class.

Table 4

CLASS.	Census year.	PERSONS ENGAGED IN THE INDUSTRY.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes.....	1914	115,571	49,948	65,623	43.2	56.8
	1909	105,238	42,216	63,022	40.1	59.9
Proprietors and officials.....	1914	2,315	2,225	90	96.1	3.9
	1909	2,236	2,134	102	95.4	4.6
Proprietors and firm members.	1914	591	509	22	96.3	3.7
Salaried officers of corporations.	1909	664	638	26	96.1	3.9
Superintendents and managers.	1914	539	549	10	98.2	1.8
	1909	480	469	11	97.7	2.3
	1914	1,165	1,107	58	95.0	5.0
	1909	1,092	1,027	65	94.0	6.0
Clerks and other subordinate salaried employees.	1914	5,086	3,625	1,461	71.3	28.7
	1909	3,965	3,060	905	77.2	22.8
Wage earners (average number)...	1914	108,170	44,093	64,072	40.8	59.2
	1909	99,037	37,022	62,015	37.4	62.6
16 years of age and over.....	1914	100,362	41,599	58,763	41.4	58.6
	1909	91,159	34,620	56,539	38.0	62.0
Under 16 years of age.....	1914	7,808	2,499	5,309	32.0	68.0
	1909	7,878	2,402	5,476	30.5	69.5

Among proprietors and officials and clerks and other salaried employees, males predominated, representing 96.1 per cent and 71.3 per cent of their respective totals in 1914, as compared with 95.4 per cent and 77.2 per cent in 1909.

The average number of wage earners employed and their per cent distribution as male and female wage earners 16 years of age and over, and children under 16 years of age are given in Table 5 for 1914, 1909, and 1904. The table also shows for each of the leading silk-manufacturing states separately a similar distribution of wage earners for 1914 and 1909.

The average number of wage earners in each state in 1904, as well as in 1909 and 1914, is given in Table 33. The distribution of the average number by sex and age is not shown for the individual states, but Table 34 gives such a distribution of the number employed on December 15, 1914, or nearest representative day.

Female wage earners were reported from all the states in which the industry was carried on, and in every state except Connecticut exceeded the males in number. The largest number, 29,288, or 46.4 per cent of the total for the industry in the United States, was reported for Pennsylvania, and the next largest number, 14,623, for New Jersey. The four leading states, as measured by value of products, New Jersey, Pennsylvania, New York, and Connecticut, together employed 54,834 female wage earners, or almost seven-eighths (86.9 per cent) of the total number for the

United States. Wage earners under 16 years of age were reported by 16 states; the largest number, 5,519, were in Pennsylvania, in which state they represented 12.5 per cent of the total number of wage earners in the industry. Of the states shown in Table 5 the proportion of children employed was highest in Maryland, where they represented 22.1 per cent of the total number of wage earners in the industry, and lowest in New Jersey, where they constituted only 2.1 per cent.

Table 5

STATE.	Census year.	WAGE EARNERS.			
		Average number.	Per cent of total.		Under 16 years of age.
			16 years of age and over.	Male.	Female.
United States.....	1914	108,170	38.5	54.3	7.2
	1909	99,037	35.0	57.1	8.0
	1904	79,601	34.0	56.8	9.2
Connecticut.....	1914	10,668	52.8	43.8	3.4
	1909	8,703	46.1	49.6	4.3
Maryland.....	1914	874	36.5	41.4	22.1
	1909	655	29.6	42.2	28.2
Massachusetts.....	1914	4,495	30.9	66.6	2.5
	1909	4,109	29.6	59.7	10.8
New Jersey.....	1914	28,263	46.7	51.2	2.1
	1909	30,285	43.5	52.9	3.6
New York.....	1914	11,659	44.6	52.4	3.0
	1909	12,903	35.1	62.4	2.5
Pennsylvania.....	1914	44,755	29.6	57.9	12.5
	1909	36,469	26.2	60.0	13.8
Rhode Island.....	1914	2,325	40.1	56.1	3.8
	1909	1,685	43.6	53.2	3.2
Virginia.....	1914	691	30.8	51.6	17.6
	1909	819	38.9	47.6	13.6

Wage earners classified according to nature of employment.—Table 6 gives a classification of spinners, weavers, and other wage earners, by sex and age periods, for the industry as a whole and for five selected states, in 1914 and 1909. The figures shown are for those reported as employed on December 15 or the nearest representative day.

The figures for spinners and weavers in this table are not entirely satisfactory because some mills reported winders, warpers, etc., included with spinners, while others reported only those employees operating producing spindles. The group "all other" is the difference between the total and the sum of spinners and weavers.

Among spinners females greatly outnumbered the males, the ratio being about two and one-half to one in 1914 and the proportion only slightly less than in 1909. Among the weavers the males were in excess in 1914 by 2,300. A majority of the weavers making broad silks, however, were females.

The relative number of spinners and weavers varied considerably in the different states. In only one of the five states shown separately in the table (New Jersey) did the number of weavers exceed the number of spinners. In Pennsylvania, 56.5 per cent of the wage earners were spinners, while in Connecticut such operators constituted only 28.9 per cent of the

total. Of the total male wage earners 16 years of age or over in 1914, almost one-half (49.2 per cent) were weavers and about one-third (31.9 per cent) spinners, the proportion of weavers having decreased somewhat during the five-year period 1909-1914, while the proportion of spinners increased slightly. In the case of women wage earners, the proportions

are practically reversed, about one-third (30.8 per cent) of the total number being weavers and more than one-half (57.9 per cent) spinners; the proportion of weavers decreased and that of spinners increased during the five-year period. More than three-fourths (79.6 per cent) of the children employed as wage earners were spinners.

Table 6

WAGE EARNERS EMPLOYED IN THE SILK-MANUFACTURING INDUSTRY.

CLASS, AGE PERIOD, AND SEX.	United States.		Connecticut.		Massachusetts.		New Jersey.		New York.		Pennsylvania.	
	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909	1914	1909
Wage earners, total.....	106,508	102,369	10,248	9,296	4,533	4,370	27,766	31,342	11,495	13,231	44,051	37,290
16 years and over.....	98,820	94,226	9,901	8,897	4,420	3,900	27,179	30,213	11,151	12,896	38,532	32,150
Male.....	40,960	35,785	5,412	4,283	1,401	1,293	12,957	13,628	5,126	4,641	13,030	9,772
Female.....	57,860	58,441	4,489	4,614	3,019	2,607	14,222	16,585	6,025	8,255	25,502	22,378
Under 16 years.....	7,688	8,143	347	399	113	470	587	1,129	344	335	5,519	5,140
Male.....	2,461	2,483	129	145	49	101	186	398	153	78	1,733	1,578
Female.....	5,227	5,660	218	254	64	369	401	731	191	257	3,786	3,562
Weavers.....	38,736	39,413	2,934	2,890	1,393	1,346	13,327	15,444	3,257	4,360	15,362	12,993
16 years and over.....	37,965	38,464	2,934	2,772	1,392	1,314	13,282	15,364	3,243	4,332	14,681	12,536
Male.....	20,150	18,980	2,048	1,575	523	558	8,265	8,715	1,849	2,248	6,315	4,791
Female.....	17,815	19,484	886	1,197	869	756	5,017	6,649	1,394	2,084	8,366	7,745
Under 16 years.....	771	949	.....	118	1	32	45	80	14	28	681	457
Male.....	368	278	.....	21	.....	10	23	32	13	22	321	181
Female.....	403	671	.....	97	1	22	22	48	1	6	360	276
On broad silk looms.....	28,425	28,319	1,234	1,154	1,385	1,325	9,481	11,278	1,873	2,099	12,066	10,316
16 years and over.....	27,726	27,778	1,234	1,151	1,384	1,293	9,452	11,220	1,872	2,094	11,418	9,881
Male.....	13,285	12,560	684	670	521	553	5,917	6,587	877	756	4,175	3,075
Female.....	14,441	15,218	550	481	863	740	3,535	4,633	995	1,338	7,243	6,806
Under 16 years.....	699	541	.....	3	1	32	29	58	1	5	648	435
Male.....	332	201	.....	.....	.....	10	10	15	1	3	312	172
Female.....	367	340	.....	3	1	22	19	43	.....	2	336	263
On ribbons looms.....	7,887	7,916	201	591	7	12	3,545	3,179	999	1,619	2,926	2,374
16 years and over.....	7,827	7,560	201	497	7	12	3,529	3,162	988	1,600	2,893	2,353
Male.....	5,071	4,870	105	179	2	4	2,062	1,763	755	1,208	1,963	1,589
Female.....	2,756	2,690	96	318	5	8	1,467	1,399	233	392	930	764
Under 16 years.....	60	356	.....	94	.....	.....	16	17	11	19	33	21
Male.....	33	55	.....	10	.....	.....	13	12	11	19	9	9
Female.....	27	301	.....	84	.....	.....	3	5	.....	.....	24	12
On velvet and plush looms.....	1,804	963	1,493	829	.....	.....	150	77	157	21	154	36
16 years and over.....	1,804	963	1,493	829	.....	.....	150	77	157	21	154	36
Male.....	1,431	672	1,253	563	.....	.....	150	52	69	21	109	36
Female.....	373	291	240	266	.....	.....	.....	25	88	.....	45	.....
Under 16 years.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Male.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Female.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
On all other looms.....	620	2,215	6	316	1	9	151	910	228	621	216	287
16 years and over.....	608	2,163	6	295	1	9	151	905	226	617	216	266
Male.....	363	878	6	163	.....	1	136	313	148	263	68	91
Female.....	245	1,285	.....	132	1	8	15	592	78	354	148	175
Under 16 years.....	12	52	.....	21	.....	.....	.....	5	2	4	.....	1
Male.....	3	22	.....	11	.....	.....	.....	5	1	.....	.....	.....
Female.....	9	30	.....	10	.....	.....	.....	.....	1	4	.....	1
Spinners (including winders, warpers, etc.).....	52,702	49,700	2,957	3,051	2,097	2,564	12,463	13,876	6,069	5,606	24,888	21,188
16 years and over.....	46,579	43,239	2,798	2,978	2,012	2,163	11,979	12,950	5,926	5,418	20,345	16,863
Male.....	13,070	11,146	573	590	435	615	3,591	4,108	2,325	1,436	5,305	3,684
Female.....	33,509	32,093	2,225	2,388	1,577	1,548	8,388	8,842	3,601	3,982	15,040	13,179
Under 16 years.....	6,123	6,461	159	73	85	401	484	926	143	188	4,543	4,325
Male.....	1,740	1,739	14	37	37	68	144	269	31	25	1,318	1,219
Female.....	4,383	4,722	145	36	48	333	340	657	112	163	3,225	3,106
All other.....	15,070	13,256	4,357	3,355	1,043	460	1,976	2,022	2,169	3,265	3,801	3,109
16 years and over.....	14,276	12,523	4,169	3,147	1,016	423	1,918	1,899	1,982	3,146	3,506	2,751
Male.....	7,740	5,659	2,791	2,118	443	120	1,101	805	952	957	1,410	1,297
Female.....	6,536	6,864	1,378	1,029	573	303	817	1,094	1,030	2,189	2,096	1,454
Under 16 years.....	794	733	188	208	27	37	58	123	187	119	295	358
Male.....	353	466	115	87	12	23	19	97	109	31	94	178
Female.....	441	267	73	121	15	14	39	26	78	88	201	180

Wage earners employed, by months.—The following table gives for the industry the total number of wage earners employed on the 15th of each month, or the nearest representative day for 1914 and 1909, and the average number employed during each month in 1904, together with the percentage which the number reported for each month forms of the greatest number reported for any month.

The silk industry is not, to any appreciable extent, subject to seasonal variations; the spring and early summer months of 1914 show the heaviest enrollment of labor for that year, as a result of market conditions.

The smallest number (100,045) of wage earners employed during any month was reported for December, and the largest number (112,761) for May, the minimum number being equal to 88.7 per cent of the maximum. In 1909 the maximum number of wage earners, 100,753, was reported for March, and the minimum number, 96,534, for July, the latter number being equal to 95.8 per cent of the former, while in 1904 the minimum number, 76,587, reported for January, was 92.6 per cent of the maximum, 82,724, in December.

Table 7

MONTH.	WAGE EARNERS IN THE INDUSTRY.					
	Number. ¹			Per cent of maximum.		
	1914	1909	1904	1914	1909	1904
January.....	107,769	97,170	76,587	95.6	96.4	92.6
February.....	109,712	99,473	78,217	97.3	98.7	94.6
March.....	110,879	100,753	80,012	98.3	100.0	96.7
April.....	111,706	100,314	80,426	99.1	99.6	97.2
May.....	112,761	99,212	79,911	100.0	98.5	96.6
June.....	111,779	97,782	78,098	99.1	97.1	94.4
July.....	111,141	96,534	77,398	98.6	95.8	93.6
August.....	109,700	98,351	78,105	97.3	97.6	94.4
September.....	107,193	99,528	79,831	95.1	98.8	96.5
October.....	105,213	99,629	81,918	93.3	98.9	99.0
November.....	100,142	99,409	81,985	88.8	98.7	99.1
December.....	100,045	100,294	82,724	88.7	99.5	100.0

¹ The figures for 1914 and 1909 represent the number employed on the 15th of each month, or the nearest representative day; those for 1904, the average number employed during the month.

Table 8 gives the total average number of wage earners employed in the silk-manufacturing industry together with the number employed on the 15th (or

the nearest representative day) of each month during the year 1914 for each state for which figures can be shown separately, together with the percentage in each state which the smallest number forms of the greatest number reported for any month.

The states shown in the table below vary considerably in the degree of regularity in the employment of wage earners, as well as in the season of greatest activity. In Pennsylvania and Connecticut, where more than one-half of the total operatives in the silk industry were employed, July was the month of greatest and November the month of least employment. New Jersey and New York employed the greatest number in May and the least in December. In these four states and in Massachusetts and Rhode Island, the minimum number of wage earners was more than 85 per cent of the maximum. In the other two states the proportion was considerably less.

Table 8

Table 8		WAGE EARNERS: 1914. [Month of maximum employment for each state is indicated by boldface figures and that of minimum by <i>italic</i> figures.]													
STATE.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.	
		January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.		
United States.....	108,170	107,769	109,712	110,879	111,706	112,761	111,779	111,141	109,700	107,193	105,213	100,142	<i>100,045</i>	88.7	
Connecticut.....	10,668	9,877	10,527	10,828	10,934	11,137	11,159	11,224	11,032	11,031	10,654	<i>9,804</i>	9,809	87.3	
Maryland.....	874	878	917	947	960	906	853	911	900	863	847	823	878	70.6	
Massachusetts.....	4,495	4,709	4,707	4,674	4,704	4,628	4,541	4,392	<i>4,206</i>	4,490	4,361	4,311	4,217	89.3	
New Jersey.....	28,263	28,801	29,086	29,287	29,526	29,674	29,126	28,410	28,246	27,857	27,361	25,937	<i>25,845</i>	87.1	
New York.....	11,659	11,570	11,826	11,763	11,846	12,037	11,750	11,786	11,892	11,994	11,734	11,012	<i>10,698</i>	88.9	
Pennsylvania.....	44,755	44,671	45,119	45,879	46,330	46,568	46,594	47,045	46,000	43,544	42,927	<i>40,984</i>	41,399	87.1	
Rhode Island.....	2,325	2,373	2,429	2,413	<i>2,180</i>	2,418	2,425	2,321	2,372	2,340	2,270	2,165	2,254	87.3	
Virginia.....	691	663	688	713	766	788	805	800	721	605	606	<i>565</i>	572	70.2	

Prevailing hours of labor.—In Table 9 the average number of wage earners reported for 1914 and 1909 for the industry has been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 9

Table 9		AVERAGE NUMBER OF WAGE EARNERS IN THE SILK MANUFACTURING INDUSTRY.							
		STATE.	Cen- sus year.	Total.	In establishments where the prevailing hours of labor per week were—				
					48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.	Over 60.
United States..	1914	108, 170	1, 169	4, 916	56, 632	43, 243	2, 190	20	
	1909	99, 037	106	2, 320	2, 323	81, 407	12, 881	.....	
Connecticut.....	1914	10, 668	16	.....	753	9, 669	230	.....	
	1909	8, 703	.....	.....	.....	8, 064	639	.....	
Maryland.....	1914	874	.....	.....	170	118	586	.....	
	1909	655	.....	.....	.....	.....	655	.....	
Massachusetts.....	1914	4, 495	330	22	4, 123	.....	.....	20	
	1909	4, 109	1	39	.....	4, 069	.....	.....	
New Jersey.....	1914	28, 263	33	1, 532	534	26, 148	16	.....	
	1909	30, 255	42	477	190	29, 448	128	.....	
New York.....	1914	11, 659	123	2, 381	7, 544	1, 594	17	.....	
	1909	12, 903	32	1, 305	1, 042	7, 753	2, 771	.....	
Pennsylvania.....	1914	44, 755	104	772	39, 854	3, 701	324	.....	
	1909	36, 469	31	490	490	27, 859	7, 599	.....	
Rhode Island.....	1914	2, 325	.....	.....	2, 247	78	.....	.....	
	1909	1, 685	.....	.....	.....	1, 685	.....	.....	
Virginia.....	1914	691	.....	.....	.....	396	295	.....	
	1909	819	.....	.....	.....	669	150	.....	

The table indicates a pronounced decrease in hours of labor in 1914 as compared with 1909. Nearly all (95.2 per cent) of the wage earners employed in the silk-manufacturing industry in 1909 were in mills operating more than 54 hours per week, the great majority, 82.2 per cent of the total, being employed in establishments where the prevailing hours were between 54 and 60 per week. In 1914, on the other hand, 58 per cent of the wage earners were employed 54 hours per week or less, such hours prevailing in 4 of the states shown in the table.

Character of ownership.—Table 10 presents statistics with respect to the character of ownership, or legal organization, of the establishments in the industry for 1914 and 1909. The table also gives similar data for the leading states for 1914 only.

The table shows an increase from 1909 to 1914 in the number and importance of establishments under corporate ownership, and a corresponding decline in the relative importance of establishments owned by individuals. In 1914, 60.2 per cent of the total number of silk mills were owned by corporations as compared with 54.9 per cent in 1909, and such establishments contributed more than three-fourths of the total value of products for the industry in the later year as compared with slightly more than two-thirds in the earlier. The number of establishments owned by individuals

in 1914 was the same as in 1909, but the proportion of the total value of products contributed by this class decreased from 9.7 per cent in the earlier year to 6.5 per cent in the later.

Table 10	STATE.	Cen- sus year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
						Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.						
			Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.				
United States.....	1914	180	543	179	108,170	8,117	86,033	14,020	7.5	79.5	13.0	\$254,011,257	\$16,407,605	\$199,073,261	\$38,530,391	6.5	78.4	15.2					
	1909	180	468	204	99,037	9,746	67,387	21,904	9.8	68.1	22.1	196,911,667	19,081,800	134,495,867	43,334,000	9.7	68.3	22.0					
Connecticut.....	1914	8	30	6	10,668	605	9,855	208	5.7	92.4	1.9	30,591,825	1,633,023	28,637,731	321,071	5.3	93.6	1.0					
New Jersey.....	1914	96	183	89	28,263	2,447	20,017	5,799	8.7	70.8	20.5	75,706,449	4,973,964	53,986,999	16,745,486	6.6	71.3	22.1					
New York.....	1914	39	75	29	11,659	860	8,702	2,097	7.4	74.6	18.0	29,260,763	2,126,468	18,665,119	8,469,176	7.3	63.8	28.9					
Pennsylvania.....	1914	26	207	51	44,755	3,598	35,487	5,670	8.0	79.3	12.7	86,938,554	5,975,213	68,326,411	12,636,930	6.9	78.6	14.5					
Rhode Island.....	1914	4	8	.....	2,325	53	2,272	.....	2.3	97.7	.....	7,664,472	136,160	7,528,312	.....	1.8	98.2	.....					
Virginia.....	1914	.....	9	.....	691	.....	691	.....	.....	100.0	.....	1,772,931	.....	1,772,931	.....	.....	100.0	.....					

The different states show considerable variation in the relative importance of the establishments operated by individuals and corporations. In New Jersey, the second state in the production of silk goods, establishments controlled by corporations constituted less than half the total number of establishments, but reported more than seven-tenths of the wage earners and of the total value of products. In Pennsylvania, the leading state in the industry, establishments under corporate ownership formed almost three-fourths of the total number and reported almost four-fifths of the wage earners and of the total value of products.

Size of establishments.—The tendency of the industry to become concentrated in large establishments is indicated by the statistics given in Table 11.

Table 11					
VALUE OF PRODUCT.	Cen- sus year.	Num- ber of estab- lish- ments.	Average number of wage earners.	Value of products.	Value added by manu- facture.
All classes.....	1914 1909	902 852	108, 170 99, 037	\$254, 011, 257 196, 911, 667	\$109, 568, 936 89, 144, 751
Less than \$5,000.....	1914 1909	46 45	167 242	133, 454 113, 378	103, 894 69, 038
\$5,000 to \$20,000.....	1914 1909	122 130	2, 073 1, 930	1, 627, 286 1, 511, 784	1, 131, 234 1, 018, 282
\$20,000 to \$100,000.....	1914 1909	305 298	13, 527 14, 713	15, 739, 554 15, 328, 061	8, 146, 471 8, 838, 024
\$100,000 to \$1,000,000.....	1914 1909	368 342	51, 131 53, 582	118, 210, 811 111, 378, 638	52, 077, 901 51, 651, 501
\$1,000,000 and over.....	1914 1909	61 37	41, 272 28, 570	118, 300, 152 68, 579, 806	48, 109, 436 27, 567, 906
Per cent distribution:					
Less than \$5,000.....	1914 1909	5.1 5.3	0.2 0.2	0.1 0.1	0.1 0.1
\$5,000 to \$20,000.....	1914 1909	13.5 15.3	1.9 1.9	0.6 0.8	1.0 1.1
\$20,000 to \$100,000.....	1914 1909	33.8 35.0	12.5 14.9	6.2 7.8	7.4 9.9
\$100,000 to \$1,000,000.....	1914 1909	40.8 40.1	47.3 54.1	46.5 56.6	47.5 57.9
\$1,000,000 and over.....	1914 1909	6.8 4.3	38.2 28.8	46.6 34.8	43.9 30.9

Although establishments with products valued at \$100,000 to \$1,000,000 formed the most important class numerically in 1914, and employed the greatest

number of wage earners, in value of production, such establishments were surpassed by those with products valued at \$1,000,000 and over.

The average value of products per establishment increased from \$231,117 in 1909 to \$281,609 in 1914 and the average value added by manufacture from \$104,630 in 1909 to \$121,473 in 1914. The average number of wage earners per establishment, on the other hand, shows but a slight increase—from 116 in 1909 to 120 in 1914.

Table 12 shows the size of establishments in 1914 and 1909 as measured by the number of wage earners employed, for the industry as a whole and for eight of the leading states.

The large mills (those employing over 500 wage earners) increased from 28 in 1909 to 34 in 1914, and the wage earners employed in these establishments increased by 6,697, or 25.7 per cent. Nearly one-third of the total wage earners employed in the silk mills in 1914 were in establishments of this size, compared with about one-fourth in 1909. The number employed in establishments having between 101 and 500 wage earners in 1914 was 52,059, or nearly one-half of the total, though such establishments represented but 26.7 per cent of the entire number. This class, however, shows a very slight decrease since 1909 both in number of establishments and in wage earners. The class employing 100 wage earners or less reported the largest number of establishments—625—but employed only 21.6 per cent of all the wage earners. This group showed an increase of 15.9 per cent in wage earners and of 8.1 per cent in number of establishments. There were two establishments in 1914 that employed no wage earners. These were both small plants in which all the work was done by the proprietors.

The large silk mills were distributed throughout a number of states, but the greatest number were located in New Jersey and Pennsylvania. Of the 11 establishments employing more than 1,000 wage earners, 7 were in Pennsylvania, 2 in Connecticut, and 1 each in Massachusetts and New Jersey:

Table 12	STATE.	Census year.	TOTAL.		ESTABLISHMENTS EMPLOYING—															
					No wage earners.		1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.
			Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.
United States.....	1914	902	108,170	2	63	186	170	2,227	213	7,332	179	13,578	164	25,545	77	26,514	23	15,551	11	17,237
	1909	852	99,037	3	61	176	182	2,336	180	6,210	155	11,394	168	27,012	75	25,818	20	13,538	8	12,553
Connecticut.....	1914	44	10,668	.....	4	9	6	84	7	219	7	497	9	1,520	9	3,281	.....	.....	2	5,058
	1909	47	8,703	.....	.....	.....	10	142	11	387	8	566	11	1,718	4	1,396	2	1,595	1	2,899
Maryland.....	1914	5	874	.....	1	1	.....	.....	.....	28	.....	.....	3	508	1	365	.....	.....	.....	.....
	1909	4	655	.....	.....	.....	.....	.....	1	.....	.....	.....	2	321	1	306	.....	.....	.....	.....
Massachusetts.....	1914	19	4,495	.....	1	5	4	59	3	93	3	159	5	847	.....	.....	2	1,125	1	2,207
	1909	19	4,109	.....	1	1	2	33	6	240	1	57	6	899	1	384	1	585	1	1,910
New Jersey.....	1914	368	28,263	1	34	97	97	1,212	103	3,494	55	4,426	54	7,864	16	5,407	7	4,556	1	1,207
	1909	348	30,285	.....	29	73	102	1,290	74	2,540	63	4,586	54	8,590	19	6,860	4	2,592	3	3,754
New York.....	1914	143	11,659	1	12	42	36	471	31	1,034	33	2,452	17	2,550	10	3,266	3	1,844	.....	.....
	1909	170	12,903	3	19	61	38	482	37	1,190	32	2,255	28	4,170	11	3,703	2	1,042	.....	.....
Pennsylvania.....	1914	284	44,755	.....	7	26	22	314	65	2,340	75	5,626	66	10,703	35	12,139	7	4,842	7	8,765
	1909	226	36,469	.....	11	37	25	334	45	1,649	44	3,395	57	9,688	31	10,515	10	6,861	3	3,990
Rhode Island.....	1914	12	2,325	.....	3	5	2	32	1	21	2	132	.....	.....	2	568	2	1,567	.....	.....
	1909	13	1,685	.....	.....	.....	4	46	1	45	4	284	.....	.....	4	1,310	.....	.....	.....	.....
Virginia.....	1914	9	691	.....	.....	.....	2	38	3	131	1	53	3	469	.....	.....	.....	.....	.....	.....
	1909	7	819	.....	.....	.....	.....	.....	2	50	2	166	2	274	1	329	.....	.....	.....	.....
All other states.....	1914	18	4,440	.....	1	1	1	17	.....	.....	3	233	7	1,084	4	1,488	2	1,617	.....	.....
	1909	18	3,409	.....	1	4	1	9	3	81	1	85	8	1,352	3	1,015	1	863	.....	.....

Engines and power.—Table 13 shows for 1914, 1909, and 1904 the number and total horsepower of engines and motors employed in generating power (including electric motors operated by purchased current). It should not be assumed that electric motors so operated

are themselves rented, however, since they are in most cases owned by the establishments using the power. The table also shows separately the number and horsepower of electric motors operated by current generated by the establishments reporting.

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
	1914 1909 1904			Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	6,036	2,836	1,350	116,924	97,947	71,760	100.0	100.0	100.0
Owned.....	653	700	605	87,669	81,719	64,628	75.0	83.4	90.1
Steam engines and turbines ¹	527	535	468	78,302	72,059	56,717	67.0	73.6	79.0
Internal-combustion engines.....	53	64	50	1,762	1,277	937	1.5	1.3	1.3
Water wheels, turbines, and motors.....	73	101	87	7,605	8,383	6,974	6.5	8.5	9.7
Rented.....	5,383	2,136	745	29,255	16,228	7,132	25.0	16.6	9.9
Electric.....	5,383	2,136	745	23,748	10,354	2,393	20.3	10.6	3.3
Other.....	.....	.....	.....	5,507	5,874	4,739	4.7	6.0	6.6
Electric power, total.....	13,954	5,714	2,157	47,401	23,758	9,521	100.0	100.0	100.0
Rented.....	5,383	2,136	745	23,748	10,354	2,393	50.1	43.6	25.1
Generated by establishments reporting.....	8,571	3,578	1,412	23,653	13,404	7,128	49.9	56.4	74.9

¹ Figures for horsepower include for 1904 the amount reported under the head of "other" owned power.

The amount of power used in the silk-manufacturing industry was first reported at the census of 1869. Table 2 shows that the total horsepower used increased from 1,911 in 1869 to 116,924 in 1914.

The greater part of the power used in the industry is steam power; but although there was a considerable absolute increase in the amount of steam power employed, the proportion which such power formed of the total primary power decreased somewhat during the decade. Water power also shows a steady decrease in the proportion which it formed of the total and, from 1909 to 1914, a decrease in amount as well.

The horsepower of electric motors operated by purchased current (rented electric power) increased very rapidly during the decade and at the last two censuses was second in importance to steam power, representing more than one-fifth of the total primary power in 1914.

The number and horsepower of electric motors used for distributing power by means of current generated in the establishment show a very large increase, the number of such motors being more than six times as large in 1914 as it was a decade earlier and the horsepower having more than trebled.

Table 34 shows for 1914 the amount of the several kinds of power used in eight of the leading states in the industry. In 1914 Pennsylvania, New Jersey, and New York together reported 84,840 horsepower, or 72.6 per cent of the aggregate for the industry. Steam power was the most important form of power in all of the states shown separately except Massachusetts, where rented electric power was used to a greater extent than any other. The largest amount of steam power, 37,448 horsepower, is shown for Pennsylvania; the largest amount of water power, 1,587 horsepower, for Massachusetts; and the largest amount of rented electric power, 9,065 horsepower, for Pennsylvania. The rented power included under the head of "other," which is particularly large in New Jersey, 3,796 horsepower, is chiefly power supplied by shafts or belts to small mills.

Fuel.—Table 14 shows, for 1914, the quantity of each kind of fuel used for which data were obtained

for the industry as a whole and for eight separate states. Anthracite coal was the principal class of fuel used during 1914, bituminous coal being next in importance. Gas was also used to a considerable extent, the greatest quantity being reported for Pennsylvania.

STATE.	FUEL USED: 1914.			
	COAL.		Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).		
United States.....	307,607	202,514	2,962	148,252
Connecticut.....	3,973	61,604	508	1,925
Maryland.....	402	7,334	3	.....
Massachusetts.....	2,778	9,171	310	1,459
New Jersey.....	76,149	14,374	60	7,031
New York.....	26,831	21,943	167	20,209
Pennsylvania.....	196,516	52,910	52	109,856
Rhode Island.....	815	9,512	.....	.....
Virginia.....	140	3,622	65	.....
All other states.....	3	22,044	1,797	7,772

SPECIAL STATISTICS RELATING TO MATERIALS, PRODUCTS, AND EQUIPMENT.

Summary for the two branches of the industry.—Table 15 presents for 1914 and 1909 the statistics of materials and products for the two branches of the industry.

MATERIAL AND PRODUCT.	SILK-MANUFACTURING INDUSTRY.												
	Total, 1914.	Establishment engaged primarily in—		Total, 1909.	Establishments engaged primarily in—		Per cent distribution.				Per cent of increase: 1909-1914.		
		Manufacturing finished silk products.	Throwing, winding, etc., only.		Manufacturing finished silk products.	Throwing, winding, etc., only.	1914		1909		Total.	Finished products.	Throwing, etc.
							Finished products.	Throwing, etc.	Finished products.	Throwing, etc.			
Materials, total cost.....	\$144,442,321	\$131,797,946	\$12,644,375	\$107,766,916	\$101,809,780	\$5,957,136	91.2	8.8	94.5	5.5	34.0	29.5	112.3
Raw silk:													
Pounds.....	22,374,700	19,633,018	2,741,682	17,472,204	16,190,941	1,281,263	87.7	12.3	92.7	7.3	28.1	21.3	114.0
Cost.....	\$86,416,857	\$77,038,819	\$9,378,038	\$67,787,037	\$63,282,548	\$4,504,489	89.1	10.9	93.4	6.6	27.5	21.7	108.2
Frisons, floss, noils, and other waste, etc.:													
Pounds.....	4,328,536	1,827,116	2,501,420	2,402,960	1,396,163	1,006,797	42.2	57.8	58.1	41.9	80.1	30.9	148.5
Cost.....	\$3,066,297	\$1,518,982	\$1,547,315	\$1,637,187	\$1,115,384	\$521,803	49.5	50.5	68.1	31.9	87.3	36.2	196.5
All other materials, cost.....	\$54,959,167	\$53,240,145	\$1,719,022	\$38,342,692	\$37,411,848	\$930,844	96.9	3.1	97.6	2.4	43.3	42.3	84.7
Products, total value ...	\$254,011,257	\$232,692,381	\$21,318,876	\$196,911,667	\$183,720,353	\$13,191,314	91.6	8.4	93.3	6.7	29.0	26.7	61.6
Organzine:													
Pounds.....	1,492,999	491,742	1,001,257	1,077,931	661,827	416,104	32.9	67.1	61.4	38.6	38.5	-25.7	140.6
Value.....	\$6,325,291	\$2,079,454	\$4,245,837	\$5,330,528	\$3,374,769	\$1,955,759	32.9	67.1	63.3	36.7	18.7	-38.4	117.1
Tram:													
Pounds.....	2,577,402	704,628	1,872,774	1,662,388	1,037,976	624,412	27.3	72.7	62.4	37.6	55.0	-32.1	199.9
Value.....	\$9,698,637	\$2,887,909	\$6,810,728	\$7,219,982	\$4,832,248	\$2,387,734	29.8	70.2	66.9	33.1	34.3	-40.2	185.5
Spun silk:													
Pounds.....	1,607,416	690,821	916,595	779,462	339,430	440,032	43.0	57.0	43.5	56.5	106.2	103.5	108.3
Value.....	\$4,577,058	\$2,189,915	\$2,387,143	\$2,104,066	\$923,435	\$1,180,631	47.8	52.2	43.9	56.1	117.5	137.1	102.5
Machine twist, sewing and embroidery silk, fringe and floss:													
Pounds.....	1,562,039	1,508,181	53,858	1,836,026	1,822,415	13,611	96.6	3.4	99.3	0.7	-14.9	-17.2	259.7
Value.....	\$9,681,613	\$9,520,797	\$160,816	\$10,521,074	\$10,466,431	\$54,643	98.3	1.7	99.5	0.5	-8.0	-9.0	194.3
All other products, value.....	\$215,328,051	\$214,560,235	\$767,816	\$163,371,667	\$162,011,747	\$1,359,920	99.6	0.4	99.2	0.8	31.8	32.4	-43.1
Received for contract work...	\$8,400,607	\$1,454,071	\$6,946,536	\$8,364,350	\$2,111,723	\$6,252,627	17.3	82.7	25.2	74.8	0.4	-31.1	11.1
Raw silk thrown on commission:													
Organzine, pounds.....	7,088,229	524,368	6,563,861	6,114,209	591,588	5,522,621	7.4	92.6	9.7	90.3	15.9	-11.4	18.1
Tram, pounds.....	6,781,010	498,770	6,282,240	6,638,793	603,069	6,035,724	7.4	92.6	9.1	90.9	2.1	-17.3	4.1

¹ A minus sign (—) denotes a decrease.

The silk industry is divided into two branches, viz: (a) mills engaged in the manufacture of finished silk products, and (b) those engaged in making partially finished products. The latter branch is composed

mostly of throwsters, but includes some winders and manufacturers of spun silk. Concerns making partially finished products reported the use, to any considerable extent, of only two materials—raw silk, and silk waste, such as frisons, floss, noils, etc. The use of the former was confined to throwsters which produced organzine and tram for sale. The five concerns which manufactured spun silk for sale used all the frisons, floss, noils, etc., reported for this branch of the industry.

One-eighth of the total amount of raw silk used in the industry in 1914, and considerably more than one-half of the frisons, floss, noils, etc., were reported by concerns engaged in throwing, winding, etc. Larger amounts of each of these materials were reported by this branch of the industry in 1914 than in 1909. Of the additional materials shown separately in Table 16, almost all were used by concerns making finished products, the cost of all these other materials reported by concerns engaged in throwing, winding, etc., being only \$338,383. No other materials except the two shown in Table 15 can be presented separately for the two branches of the industry without disclosing the operations of individual establishments.

Considerably more than half (57 per cent) of the spun silk made for sale in the industry was reported by the five concerns engaged exclusively in the manufacture of this product. The remainder of the spun silk reported for the industry (690,821 pounds) was made by concerns which were engaged primarily in the production of broad silks, ribbons, etc. A few throwsters, engaged in the manufacture for sale of organzine and tram, produced as secondary products, machine twist, sewing and embroidery silks, and fringe and floss, to the value of \$160,816. None of the other products shown separately in Table 21 were produced, even as subsidiary products, by concerns engaged in throwing, winding, etc.

Summary of materials for the United States.—Table 16 shows statistics of the materials used in the industry for 1914, 1909, 1904, and 1899.

Attention is called to the fact that the statistics for raw silk shown in Table 16 do not represent the total amount of this material used in the industry. More than two-thirds of the raw silk used was thrown on contract, either for silk merchants, or for weaving mills, but as this silk was not owned by the mills doing the throwing, its amount and value were not included by them in their report as to materials used. The silk thrown for the weaving mills, however, formed part of the materials reported by such mills and accordingly is included in the table, but that thrown for merchants and dealers, not being owned by the silk-manufacturing concerns, was not reported and so is not included in the statistics for the industry; consequently it is impossible to give the amount of silk so thrown, but the quantity must have been

considerable. Silk thrown for merchants and later sold by them as organzine and tram to establishments within the silk industry does not figure in the statistics of materials as a raw silk, but as organzine or tram only.

Table 16

MATERIALS USED IN THE INDUSTRY.

	1914	1909	1904	1899
Total cost.....	\$144,442,321	\$107,766,916	\$75,861,188	\$62,406,665
Silk:				
Raw—				
Pounds.....	22,374,700	17,472,204	11,572,783	9,760,770
Cost.....	\$86,416,857	\$67,787,037	\$45,318,416	\$40,721,877
Spun—				
Pounds.....	3,209,309	2,112,972	1,951,201	1,550,291
Cost.....	\$8,094,427	\$4,848,789	\$4,310,061	\$3,406,059
Artificial—				
Pounds.....	1,902,974	914,494	466,151	6,056
Cost.....	\$3,440,154	\$1,926,894	\$1,623,473	\$10,380
Organzine and tram purchased—				
Pounds.....	3,855,899	3,377,972	3,236,744	2,338,464
Cost.....	\$16,703,096	\$14,679,719	\$14,552,425	\$10,539,632
Frison, floss, noils and other waste, etc., purchased—				
Pounds.....	4,328,536	2,402,960	149,811	1,735,179
Cost.....	\$3,066,297	\$1,637,187	\$187,159	\$1,008,947
Yarns, other than silk:				
Cotton (not including mercerized)—				
Pounds.....	16,869,511	12,617,292	8,387,048	6,444,208
Cost.....	\$6,163,240	\$4,687,173	\$2,586,954	\$1,830,550
Mercerized cotton—				
Pounds.....	1,464,299	1,494,586	631,247	219,861
Cost.....	\$1,078,337	\$1,124,409	\$471,035	\$165,683
Woolen or worsted—				
Pounds.....	1,987,918	610,588	443,155	239,461
Cost.....	\$2,087,804	\$765,989	\$409,867	\$167,770
Mohair—				
Pounds.....	2,645,055	710,108	138,389	104,810
Cost.....	\$1,604,362	\$640,529	\$137,097	\$107,365
All other—				
Pounds.....	291,672	353,780	130,930	108,388
Cost.....	\$438,944	\$456,597	\$108,841	\$134,986
All other materials.....	\$15,348,803	\$9,212,593	\$6,155,860	\$4,313,416

¹ Does not include waste, noils, etc., which were included with "all other materials" in 1904.

The tendency toward the manufacture of silk-mixed goods is shown by the relatively large increase in the amount of yarns, other than silk, used during the decade as compared with the increase in the amount of silk used. The amount of cotton yarn used in 1914 was more than twice as great as in 1904, and even greater relative increases are shown for mohair and for woolen or worsted yarns.

The amount of purchased spun-silk yarn used shows a relatively smaller increase during the decade than any other material shown separately in Table 16 except organzine and tram. The quantity used exceeded the quantity reported as made for sale (see Table 21) by 1,601,893 pounds in 1914, 1,333,510 pounds in 1909, 1,380,672 pounds in 1904, and 1,112,832 pounds in 1899. A large part of this material is imported, the total quantity brought into the country during the year ending December 31, 1914, being 2,490,655 pounds. (See Table 26.) Spun-silk yarn is used principally in the manufacture of velvets, plushes, and other pile fabrics, and also in silk-mixed goods; large quantities are also used in cotton and wool manufactures and in the manufacture of hosiery and knit goods. The spun-silk yarn manufactured in the United States is made chiefly from reelers' waste—

that is, from pierced cocoons, filature waste, and frisons—while a comparatively small amount comes from the waste of throwing and winding. Reelers' waste is not a worked-over material, like wool shoddy, but is a sound new fiber, as superior to the throwsters' waste as the long Sea-island cotton is to the grades below middling.

Owing to the high price of silk and to its limited supply, great efforts have been made to secure satisfactory substitutes. As a result, a number of processes have been invented for making fibers closely

resembling animal silk. The production of artificial silk is largely confined to Germany and France, but a number of other countries have mills devoted to its manufacture. The production of artificial silk in the United States was reported in 1914 by only one establishment, but American silk mills used twice as much artificial silk in 1914 as in 1909 and four times as much as in 1904.

Materials, by states.—Table 17 shows, by states the quantity and cost of materials used in the silk mills in 1914, 1909, 1904, and 1899.

Table 17

PRINCIPAL MATERIALS USED IN THE INDUSTRY.

MATERIAL AND STATE.	Quantity (pounds).				Cost.				Percent of increase: 1904-1914. ¹	
	1914	1909	1904	1899	1914	1909	1904	1899	Quantity.	Cost.
Raw silk	22,374,700	17,472,204	11,572,783	9,760,770	\$86,416,857	\$67,787,037	\$45,318,416	\$40,721,877	93.3	90.7
Connecticut.....	1,875,922	1,624,701	1,320,509	1,159,961	7,263,562	6,099,209	5,067,381	4,537,720	42.1	43.3
Massachusetts.....	1,121,697	920,308	739,004	720,485	4,141,624	3,753,207	2,944,279	2,898,545	51.8	40.7
New Jersey.....	6,891,603	6,112,647	3,553,090	3,155,334	26,613,777	23,705,609	13,920,194	13,514,501	94.0	91.2
New York.....	2,339,776	1,817,329	1,006,793	914,265	9,033,199	7,092,171	3,934,433	3,814,768	132.4	129.6
Pennsylvania.....	8,073,266	5,532,973	3,970,044	3,238,285	31,573,509	21,206,972	15,419,221	13,534,887	103.4	104.8
Rhode Island.....	535,613	483,330	262,112	102,691	1,850,707	2,173,458	1,179,447	490,750	104.3	56.9
All other states.....	1,536,823	980,916	721,231	469,749	5,940,479	3,756,411	2,853,461	1,931,206	113.1	108.2
Spun silk	3,209,309	2,112,972	1,951,201	1,550,291	8,094,427	4,848,789	4,310,061	3,406,059	64.5	87.8
Connecticut.....	1,244,745	596,379	716,607	502,558	3,340,302	1,425,657	1,609,152	998,566	73.7	107.6
New Jersey.....	501,912	244,617	154,201	178,735	1,198,296	628,027	341,298	533,612	225.5	251.1
New York.....	372,718	315,622	249,896	263,200	664,480	759,710	734,099	562,322	49.1	-9.5
Pennsylvania.....	723,176	695,067	454,074	477,543	1,845,513	1,566,914	876,485	979,506	59.3	110.0
Rhode Island.....	130,342	73,816	52,145	51,516	363,934	175,113	139,909	136,404	150.0	160.1
All other states.....	236,416	187,471	324,278	76,739	681,902	293,368	609,118	195,649	-27.1	11.9
Artificial silk	1,902,974	914,494	466,151	6,056	3,440,154	1,926,894	1,623,473	10,380	308.2	111.9
Connecticut.....	404,087	18,192	.....	.....	718,026	39,062	.....	.....	.....	.....
New Jersey.....	487,887	103,148	8,066	.....	923,675	197,208	35,074	.....	.....	.....
New York.....	709,611	616,439	289,282	5,350	1,234,255	1,309,400	1,039,783	6,790	145.3	18.7
Pennsylvania.....	176,682	127,486	127,192	526	334,022	273,646	394,126	3,115	38.9	-15.2
All other states.....	124,707	49,229	41,611	180	230,176	107,578	154,490	475	199.7	49.0
Organzine and tram	3,855,899	3,377,972	3,236,744	2,338,464	16,703,096	14,679,719	14,552,425	10,539,632	19.1	14.8
Connecticut.....	41,121	54,619	28,844	31,041	206,051	238,785	144,358	154,881	42.6	42.7
New Jersey.....	1,471,594	1,143,754	1,343,081	1,209,012	6,154,447	4,899,843	5,832,154	5,702,506	9.6	5.5
New York.....	337,164	335,003	603,623	197,781	1,457,062	1,471,824	2,919,456	839,657	-44.1	-50.1
Pennsylvania.....	1,760,594	1,719,952	1,202,805	871,235	7,934,419	7,531,045	5,390,466	3,701,840	46.4	47.2
All other states.....	245,426	124,644	58,391	29,395	951,117	538,222	265,991	140,748	320.3	257.6
Frison, floss, noils, and other waste, etc.	4,328,536	2,402,960	2,49,811	1,735,179	3,066,297	1,637,187	2,187,159	1,008,947	(³)	(³)
New York.....	665,625	515,545	2,7,080	308,486	492,844	326,691	28,475	175,713	(³)	(³)
Pennsylvania.....	28,292	55,863	32,960	221,151	43,281	93,764	116,663	199,814	(³)	(³)
All other states.....	3,634,619	1,831,552	9,771	1,205,542	2,530,172	1,216,732	42,021	633,420	(³)	(³)
Cotton yarns (not including mercerized yarns)	16,869,511	12,617,292	8,387,048	6,444,208	6,163,240	4,687,173	2,586,954	1,830,550	101.1	138.2
Connecticut.....	4,867,496	2,410,095	1,359,021	1,187,863	1,727,259	850,437	439,025	388,836	258.2	293.4
Massachusetts.....	1,046,919	1,225,386	724,594	480,220	530,121	535,889	264,580	144,520	44.5	100.4
New Jersey.....	2,975,046	1,889,158	1,054,973	757,456	1,087,780	781,061	402,480	304,481	182.0	170.3
New York.....	1,594,878	2,018,612	1,197,943	1,556,545	655,489	757,470	401,841	359,716	33.1	63.1
Pennsylvania.....	3,590,419	2,869,000	2,591,135	1,759,759	1,328,708	1,077,157	665,915	465,812	38.6	99.5
Rhode Island.....	1,830,922	1,421,229	969,426	409,936	500,348	404,141	290,214	122,800	88.9	72.4
All other states.....	963,831	783,812	489,956	292,399	333,535	281,018	122,899	44,385	96.7	171.4
Mercerized cotton yarns	1,464,299	1,494,586	631,247	219,861	1,078,337	1,124,409	471,035	165,683	132.0	128.9
Connecticut.....	109,219	29,310	21,560	1,642	93,307	20,270	7,337	1,416	.....	.....
Massachusetts.....	221,929	158,399	5,348	4,708	181,501	113,253	4,470	3,733	.....	.....
New Jersey.....	352,340	490,307	261,905	122,053	313,104	390,198	208,204	90,013	34.5	50.4
New York.....	400,224	483,627	101,943	51,560	232,957	359,315	74,770	42,432	292.6	211.6
Pennsylvania.....	336,904	309,063	227,944	30,070	217,198	224,029	168,025	23,121	47.8	29.3
All other states.....	43,683	23,880	12,547	9,828	40,270	17,344	8,229	4,968	248.2	389.4
Woolen or worsted yarns	1,987,918	610,588	443,155	239,461	2,087,804	765,989	409,867	167,770	348.6	409.4
New Jersey.....	396,383	69,169	25,725	16,940	450,763	106,333	27,962	15,042	.....	.....
New York.....	203,671	94,622	184,340	45,527	241,485	114,829	191,816	36,640	10.5	25.9
Pennsylvania.....	454,307	83,075	48,870	8,717	569,877	98,340	47,969	5,743	.....	.....
All other states.....	933,557	363,722	184,220	168,277	825,679	446,487	142,120	110,345	406.8	481.0
Mohair and other yarns	2,936,727	1,063,888	269,319	213,198	2,043,306	1,097,126	245,938	242,351	990.4	730.8
Connecticut.....	1,191,116	559,102	97,435	3,260	1,201,778	500,545	97,144	6,139	.....	.....
New Jersey.....	169,767	122,303	14,891	480	139,822	170,009	10,622	170	.....	.....
New York.....	1,486,741	166,376	85,997	53,864	600,331	217,899	46,223	43,140	.....	.....
Pennsylvania.....	59,485	186,170	53,453	78,923	72,016	157,214	74,292	59,742	11.3	-3.1
All other states.....	29,618	29,937	17,543	76,671	29,359	51,459	17,657	133,160	68.8	66.3

¹ A minus sign (—) denotes decrease.² Not including waste, noils, etc.³ Figures not comparable.

Consumption of silk in all textile industries.—In addition to the silk used in the silk-manufacturing industry, considerable amounts were used in other tex-

tile industries in the manufacture of mixed goods and of silk hosiery and other knit goods. Silk is also used to some extent in the electrical industry for covering wire,

but data in regard to its consumption are not available. Table 18 shows the quantity of raw silk, of thrown-silk and spun-silk yarns, and of artificial silk, used in the United States in all the textile industries for 1914, 1909, 1904, and 1899.

INDUSTRY.	SILK CONSUMED IN ALL TEXTILE MILLS (POUNDS).			
	1914	1909	1904	1899
Raw silk.....	25,021,945	17,729,306	11,572,783	9,760,770
Silk goods.....	22,374,700	17,472,204	11,572,783	9,760,770
Cotton manufactures.....	1,057,083	257,102		
Hosiery and knit goods.....	1,590,162			
Silk yarn and spun-silk yarn.....	10,628,502	9,015,079	6,409,531	5,041,899
Silk goods.....	7,065,208	5,490,944	5,187,945	3,888,755
Cotton manufactures.....	855,123	2,062,006	412,589	560,680
Cotton goods.....	714,093	1,923,727	369,575	507,119
Cotton small wares.....	86,943	138,279	43,014	53,561
Cotton lace.....	54,087			
Hosiery and knit goods.....	1,913,478	982,753	320,671	266,247
Cordage and twine.....				5,874
Wool manufactures.....	794,693	479,376	488,326	320,343
Woolen goods.....	117,291	70,959	107,396	157,978
Worsted goods.....	404,370	211,577	304,930	73,951
Carpets and rugs, other than rag.....	273,032	196,840	76,000	188,414
Artificial silk.....	3,610,644	914,494	466,151	6,056
Silk goods.....	1,902,974	914,494	466,151	6,056
Cotton manufactures.....	450,427	(²)	(²)	(²)
Hosiery and knit goods.....	1,257,243	(²)	(²)	(²)

¹ Includes a small amount used in felt-goods mills.

² Not reported separately.

The quantity of silk yarn used in other textile industries in 1909 was more than three times as large as in 1899, but increased very little from 1909 to 1914. The amounts used in the manufacture of hosiery and knit goods show a very large increase during the fifteen-year period; the quantity used in wool manufactures more than doubled. In cotton manufactures, silk is used largely in the manufacture of fancy woven fabrics with silk stripes or figures, and also in cotton-backed satins, and in plain and printed fabrics with cotton warps and silk filling. The increase shown for the hosiery and knit-goods industry is accounted for by the marked increase in the production of silk hosiery—12,572 dozen pairs in 1899, 42,065 dozen pairs in 1904, 434,414 dozen pairs in 1909, and 2,354,648 dozen pairs in 1914.

Raw silk thrown under contract.—Formerly the throwing of raw silk in the United States was carried on chiefly in establishments which used the organzine and tram in further processes of manufacture, but there is a growing practice among weaving mills of having the silk thrown under contract in establishments whose activities are limited to this work. Table 19 shows, by states, the quantity of raw silk thrown under contract into organzine and tram in 1914, 1909, 1904, and 1899.

The total amount of raw silk thrown under contract in 1914 was equal to 62 per cent of the total amount used in the industry, the corresponding ratio for 1909 being 73 per cent, that for 1904, 61.4 per cent, and that for 1899, 44 per cent. While these percentages

do not show the proportion of the total amount of raw silk used within the industry which was thrown under contract in the respective years, owing to the fact that the silk reported as thrown under contract includes that thrown for merchants and others not in the silk-manufacturing industry, they are sufficiently close to give a general idea of the relative extent of commission throwing and of the increase in the relative importance of such throwing during the 15 years covered by the table.

STATE.	RAW SILK (POUNDS).			
	Total amount used in the industry.	Thrown under contract.		
		Total.	Into organzine.	Into tram.
United States:				
1914.....	22,374,700	13,869,239	7,088,229	6,781,010
1909.....	17,472,204	12,753,002	6,114,209	6,638,793
1904.....	11,572,783	7,101,851	3,635,384	3,466,467
1899.....	9,760,770	4,298,659	2,331,456	1,967,203
Connecticut:				
1914.....	1,875,922	122,187	60,483	61,704
1909.....	1,624,701	290,253	150,332	139,921
1904.....	1,320,509	216,454	131,038	85,416
1899.....	1,159,961	253,858	184,270	69,588
Massachusetts:				
1914.....	1,121,697	5,377		5,377
1909.....	920,308	116,543	56,670	59,873
1904.....	739,004			
1899.....	720,485	8,000		8,000
New Jersey:				
1914.....	6,891,603	1,790,594	693,593	1,097,001
1909.....	6,112,647	2,661,205	813,906	1,847,299
1904.....	3,553,090	1,689,088	702,055	987,033
1899.....	3,155,334	1,237,622	585,722	651,900
New York:				
1914.....	2,339,776	1,060,699	563,801	496,898
1909.....	1,817,329	936,754	495,053	441,701
1904.....	1,006,793	705,078	359,248	345,830
1899.....	914,265	322,381	117,981	204,400
Pennsylvania:				
1914.....	8,073,266	9,754,295	5,201,159	4,553,136
1909.....	5,532,973	7,733,016	4,150,688	3,582,328
1904.....	3,970,044	4,116,299	2,288,174	1,828,125
1899.....	3,238,285	2,259,673	1,332,758	926,915
Rhode Island:				
1914.....	535,613	3,560	2,670	890
1909.....	483,330			
1904.....	262,112	88,000	68,000	20,000
1899.....	102,691	16,599	16,599	
Virginia:				
1914.....	215,896	167,794	107,639	60,155
1909.....	214,434	164,114	120,852	43,262
1904.....				
1899.....	164,200	94,930	67,220	27,710
All other states:				
1914.....	1,320,927	964,733	458,884	505,849
1909.....	766,482	851,117	326,708	524,409
1904.....	721,231	286,932	86,869	200,063
1899.....	305,549	105,596	26,906	78,690

The quantity of silk thrown under contract more than trebled during the period 1899–1914. Pennsylvania has reported more silk thrown on commission, at each of the last four censuses, than all of the rest of the United States combined, and is, moreover, doing an increasingly greater proportion of this kind of work; mills in this state reported 70.3 per cent of the total silk thrown on commission in 1914, 60.6 per cent in 1909, 58 per cent in 1904, and 52.6 per cent in 1899.

Imports.—Silk mills depend upon imports for their raw silk material. Table 20 shows the quantity and value of imports of raw silk, spun silk, raw silk waste, and artificial silk for each fiscal year from 1899 to 1914, inclusive.

Table 20

IMPORTED SILK MATERIALS.¹

YEAR ENDING JUNE 30—	Total.	Raw silk.	Spun silk.	Silk waste, including cocoon and noils.	Artificial silk.
QUANTITY (pounds).					
1914.....	40,398,471	28,594,672	3,093,336	5,951,157	2,759,306
1913.....	37,626,000	26,049,472	3,582,268	6,052,083	1,942,177
1912.....	31,286,163	21,609,520	3,243,657	4,975,442	1,457,544
1911.....	31,859,096	22,379,998	3,245,582	4,286,093	² 1,947,423
1910.....	26,692,592	20,363,327	3,235,369	3,093,896	(³)
1909.....	27,531,533	23,333,750	2,343,576	1,854,207	(³)
1908.....	18,802,980	15,424,041	2,140,848	1,238,091	(³)
1907.....	21,223,268	16,722,207	2,479,364	2,021,697	(³)
1906.....	19,609,281	14,505,324	2,257,260	2,846,697	(³)
1905.....	24,709,713	17,812,133	2,352,406	4,545,174	(³)
1904.....	18,775,983	12,630,883	2,053,274	4,091,826	(³)
1903.....	17,265,871	13,637,206	1,995,012	1,633,653	(³)
1902.....	16,396,071	12,620,682	2,161,245	1,614,144	(³)
1901.....	12,120,622	9,139,617	1,715,067	1,265,938	(³)
1900.....	15,494,270	11,259,310	2,420,552	1,814,408	(³)
1899.....	12,978,093	9,691,145	1,727,710	1,559,238	(³)
VALUE.					
1914.....	\$110,143,527	\$97,828,243	\$5,752,463	\$3,101,782	\$3,461,039
1913.....	93,683,939	82,147,523	6,383,872	2,767,194	2,385,350
1912.....	76,963,352	67,173,382	5,663,691	2,368,290	1,757,989
1911.....	83,986,628	72,713,984	5,708,804	2,284,281	² 3,279,559
1910.....	72,193,714	65,424,784	5,064,111	1,704,819	(³)
1909.....	83,487,443	78,830,568	3,583,857	1,073,018	(³)
1908.....	68,249,135	63,665,534	3,702,232	881,369	(³)
1907.....	75,187,643	70,229,518	3,775,744	1,182,381	(³)
1906.....	57,308,424	52,855,611	3,227,920	1,224,893	(³)
1905.....	64,327,695	59,542,892	3,287,642	1,497,161	(³)
1904.....	49,148,317	44,461,564	3,047,817	1,638,936	(³)
1903.....	53,005,701	49,002,597	2,994,651	1,008,453	(³)
1902.....	45,941,875	41,714,331	3,306,524	921,020	(³)
1901.....	32,635,081	29,353,777	2,583,716	697,588	(³)
1900.....	49,053,108	44,549,672	3,723,348	780,088	(³)
1899.....	34,454,643	31,827,061	1,975,016	652,566	(³)

¹ Bureau of Foreign and Domestic Commerce, Department of Commerce, "Commerce and Navigation of the United States."

² Includes also manufactures of artificial silk.

³ Prior to 1911 included with silk.

Summary of products for the United States.—Table 21 shows in detail for 1914, 1909, 1904, and 1899 the quantity and value of products of the establishments within the silk-manufacturing industry.

The single-width yard is used as the unit of measurement in Table 21 and in all other tables giving statistics of products for this industry.

The total production of silk goods of broad weave (broad silks, velvets, plushes, tapestries, and upholstery) in 1914 was 241,944,522 running yards valued at \$157,265,554, as compared with 198,787,027 running yards valued at \$115,136,724 in 1909. Broad silks formed nine-tenths of all broad weaves in 1914 and 1909. All-silk goods constituted almost two-thirds of the broad-silk product in 1914, but the production of such goods did not increase as rapidly during the decade as did the production of silk-mixed broad silks.

The production of velvets more than doubled during the decade, but there was even a more marked increase in that of plushes. The production of tapestries and upholstery decreased, all of the decrease taking place during the earlier part of the decade.

Silk goods of narrow weave are of such varied widths that statistics of output in yards would have little significance. Of these goods, ribbons, laces, etc., and trimmings show large increases in value.

The figures for organzine and tram made for sale fall short of representing the total production of organzine and tram other than for the use of the establishment

doing throwing, owing to the fact that they do not include the large amount of organzine and tram thrown under contract for establishments furnishing the raw silk. As shown by Table 19, a total of 12,869,239 pounds of raw silk was thrown under contract in 1914, none of the organzine and tram obtained from this silk being included as such in Table 21.

Table 21

PRODUCTS OF THE INDUSTRY.

	1914	1909	1904	1899	Per cent of in- crease 1904- 1914.
Total value.....	² \$254,011,257	² \$196,911,667	² \$133,288,072	² \$107,256,258	90.6
Broad silks:					
Yards.....	216,033,696	185,707,316	124,871,215	87,636,883	73.0
Value.....	\$137,719,564	\$107,881,146	\$66,917,762	\$52,152,816	105.8
All-silk goods—					
Yards.....	142,713,359	114,876,641	97,870,717	68,437,218	45.5
Value.....	\$96,689,801	\$74,471,291	\$55,944,988	\$42,573,279	72.8
Piece-dyed—					
Yards.....	59,304,041				
Value.....	\$38,819,874	19,693,393	21,334,584	7,331,501	199.2
Printed—					
Yards.....	4,528,453	\$11,353,242	\$9,276,445	\$3,342,167	346.9
Value.....	\$2,637,231				
Yarn-dyed—					
Yards.....	78,880,865	³ 95,183,248	³ 76,536,133	³ 61,105,717	3.1
Value.....	\$55,232,696	³ \$63,118,049	³ \$46,668,543	³ \$39,231,112	18.4
Mixed goods—					
Yards.....	73,320,337	70,830,675	27,000,498	19,199,665	171.0
Value.....	\$41,029,763	\$33,409,855	\$10,972,774	\$9,579,537	273.7
Piece-dyed—					
Yards.....	39,559,303				
Value.....	\$21,843,055	40,044,433	15,603,353	8,558,884	155.5
Printed—					
Yards.....	310,731	\$15,728,195	\$4,399,654	\$2,868,506	401.1
Value.....	\$203,848				
Yarn-dyed—					
Yards.....	33,450,303	³ 30,786,242	³ 11,397,145	³ 10,640,781	193.5
Value.....	\$18,982,860	³ \$17,681,660	³ \$6,573,120	³ \$6,711,031	188.8
Velvets:					
Yards.....	16,318,135	10,093,583	7,262,315	5,122,249	124.7
Value.....	\$8,570,022	\$4,767,990	\$3,161,206	\$2,479,903	171.1
Plushes:					
Yards.....	9,114,992	2,759,411	2,547,367	3,848,684	257.8
Value.....	\$10,135,842	\$2,104,768	\$1,340,815	\$2,480,068	655.9
Tapestries and upholstery:					
Yards.....	477,699	226,717	1,766,210	1,333,119	173.0
Value.....	\$840,126	\$382,820	\$1,559,982	\$1,009,835	46.1
Ribbons, value.....	\$38,201,293	\$32,744,873	\$21,890,604	\$18,467,179	74.5
Laces, nets, veils, veilings, etc., value.....	\$1,328,933	\$1,350,850	\$745,489	\$803,104	78.5
Embroideries, value.....	\$33,500	\$485,322	\$112,362	\$57,625	70.1
Fringes and gimps, value.....	\$1,025,188	\$824,527	\$1,016,954	\$444,787	0.1
Braids and bindings, value.....	\$3,073,648	\$4,483,248	\$3,493,977	\$1,522,565	12.0
Tailors' trimmings, value.....	\$210,741	\$41,040	\$700	\$26,624	.....
Military trimmings, value.....	\$431,422	\$346,963	\$170,231	\$54,666	153.1
Machine twist:					
Pounds.....	659,540	1,088,780	932,998	987,917	29.3
Value.....	\$4,036,807	\$6,341,719	\$5,521,055	\$5,997,974	26.1
Sewing, embroidery, fringe, and floss silks:					
Pounds.....	902,499	747,246	811,711	739,301	11.1
Value.....	\$5,644,806	\$4,179,355	\$4,625,016	\$4,248,216	22.1
Organzine:					
Pounds.....	1,492,999	1,077,931			
Value.....	\$6,325,291	\$5,330,528	2,025,645	2,468,387	100.0
Tram:					
Pounds.....	2,577,402	1,662,388	\$9,190,650	\$11,167,191	74.1
Value.....	\$9,698,637	\$7,219,932			
Spun silk:					
Pounds.....	1,607,416	779,462	570,529	437,459	181.1
Value.....	\$4,577,058	\$2,104,066	\$1,660,647	\$1,026,227	175.1
All other products, value.....	⁴ \$13,757,772	⁵ \$7,958,120	⁵ \$8,164,566	⁵ \$2,980,258	68.1
Amount received for contract work.....	\$8,400,607	\$8,364,350	\$3,716,056	\$2,337,220	126.1

¹ A minus sign (—) denotes decrease.

² In addition, similar classes of silk goods, to the value of \$1,776,660 in 1914 and \$1,213,101 in 1909 were made in establishments engaged primarily in the manufacture of other products.

³ For comparison, the figures for "plain and fancies" and "Jacquards" are combined.

⁴ Includes 7,640,086 yards of undyed, unfinished, broad silks valued at \$3,453,741. Includes "millinery trimmings," "ladies' dress trimmings," and "clothes trimmings," valued, respectively, at \$1,646,136, \$1,580,547, and \$235,762, for 1904, \$1,333,735, \$1,549,391, and \$53,640 for 1909, and \$615,012, \$912,361, and \$241,560 for 1899, not reported separately on 1914 schedule.

"All other products" for which the value was separately reported in 1914, includes a variety of commodities, some of which may have been included at previous censuses among those for which separate quantities and values were shown. Silk hosiery and knit goods were not separately called for in the schedule used in 1899, 1904, 1909, and 1914. Hence the figures given for silk hosiery under "all other products" may not cover the entire production in silk mills. The various items comprising this total for 1914, in so far as they can be segregated, were as follows:

ARTICLES INCLUDED IN "ALL OTHER PRODUCTS."	Value.
Total.....	\$13,757,772
Trimmings, cords, tassels, ornaments, etc., other than military and tailors' trimmings.....	1,674,399
Mufflers and handkerchiefs.....	76,477
Cravats and tubular neckties.....	747,508
Fabrics (in the gray).....	3,453,744
Labels.....	971,789
Hatbands.....	607,204
Fishlines.....	177,150
Miscellaneous products, other than silk (cotton and woolen yarn, cotton fabrics, etc.).....	2,405,604
Silk hosiery and knitted fabrics.....	1,013,565
Raw silk, skein-dyed.....	229,415
Miscellaneous, unclassified silk products and waste.....	2,400,917

In addition to the products covered by Table 21, silk goods to the value of \$47,460,109 were manufactured as subsidiary products by establishments assigned to industries other than the silk-manufacturing industry proper. Table 22 shows for 1914 the value of the total production of silk goods manufactured in the industry designated "silk manufactures" and by establishments engaged primarily in the manufacture of other products.

Table 22 PRODUCT.	Total production, 1914.	Production in silk mills.	Production in other industries.
Total value.....	\$301,471,366	\$254,011,257	\$47,460,109
Broad silks:			
Finished.....	137,937,720	137,719,564	218,156
In the gray.....	3,629,805	3,141,765	488,040
Plushes.....	10,139,592	10,135,842	3,750
Ribbons.....	38,209,557	38,201,293	8,264
Braids and bindings.....	3,126,393	3,073,648	52,745
Trimmings.....	649,456	642,163	7,293
Fringes and gimps.....	1,101,651	1,025,188	76,463
Spun silk.....	5,244,011	4,577,058	666,953
Sewing silk.....	5,131,226	5,046,452	84,774
Machine twist.....	4,163,426	4,036,807	126,619
Shirts and drawers.....	1,528,048	.....	1,528,048
Combination suits.....	6,592,350	.....	6,592,350
Hosiery.....	29,971,695	179,014	29,792,681
Gloves and mittens.....	4,683,479	.....	4,683,479
Jersey cloth and stockinettes.....	2,738,932	.....	2,738,932
Other knit goods.....	1,182,510	834,551	357,959
All other.....	45,441,515	45,397,912	43,603

The total value of products reported for the silk-manufacturing industry proper in 1914 includes \$20,600,986, representing the value of organzine, tram, and spun silk, a large part of which was sold to other silk-manufacturing establishments for use as material in the manufacture of silk goods, \$8,400,607, constituting the amount received for contract work by silk mills, which involves a very large amount of duplication, and \$2,405,604, representing the value of prod-

ucts other than silk manufactures, so far as these were separately returned. The subtraction of these figures from the total value of products for the industry leaves a remainder of \$222,604,060, which represents approximately the value of the finished silk goods made in the industry, although it may include the value of some products other than silk goods which were not specifically reported. On the other hand, silk and silk-mixed hosiery and underwear to the value of \$37,913,079 were reported by establishments in the hosiery and knit-goods industry (\$1,079,249 of this amount being reported by mills using silk materials exclusively); in addition, knitting mills using silk exclusively as a material reported other silk products such as gloves, jersey cloth and stockinette, etc., to the value of \$7,770,370, while other silk manufactures to the value of \$1,776,660, were reported by establishments engaged primarily in the manufacture of other products; it is probable that these latter two figures do not represent the total production of silk manufactures outside the silk-manufacturing industry, as some establishments making these products may not have reported them separately. Combining the three figures just given with that previously given as representing the approximate value of finished silk goods made by establishments in the silk-manufacturing industry proper, a total of \$270,064,169 is obtained, which represents approximately the total value of finished silk goods manufactured in 1914.

The leading product reported by establishments not in the silk industry, is silk hosiery, the value of which in 1914 constituted about two-thirds of the total production of silk manufactures of such establishments. As shown by Table 22, the total value of silk hosiery manufactured in 1914 was \$29,971,695, of which amount less than 1 per cent represented the value of hosiery made in silk mills.

Products, by states.—Table 23 gives, by states, the quantities and the values of the different products of the silk-manufacturing industry, so far as reported, for 1914, 1909, 1904, and 1899.

Table 24 gives for 1914, 1909, 1904, and 1899 the per cent distribution by states of the quantity, and Table 25 of the value, of the output of all products for which the actual figures are shown separately in Table 23.

Pennsylvania was the leading state in the production of each kind of broad silks, except yarn-dyed silk-mixed goods, in the production of which the state ranked second to New Jersey. Pennsylvania reported the largest amount of organzine and tram made for sale, much of which was sold to establishments in other states. More than four-fifths of the total value of ribbons made in the United States was reported from New Jersey and Pennsylvania. The production of laces, nets, veils, etc., was practically confined to

two states, New York and New Jersey. New York also reported nearly two-thirds of the total value of fringes and gimps and more than three-fifths of the value of braids and bindings. Connecticut reported

almost the entire output of velvet, and more than one-half of the plushes, and also led in the production of machine twist and of sewing and embroidery silks, as well as in that of spun-silk yarn.

Table 23

PRODUCT AND STATE.	QUANTITY.				VALUE.			
	1914	1909	1904	1899	1914	1909	1904	1899
Broad silks	<i>Yards.</i> 216,033,696	<i>Yards.</i> 185,707,315	<i>Yards.</i> 124,871,215	<i>Yards.</i> 87,636,883	\$137,719,564	\$107,881,146	\$66,917,762	\$52,152,816
Connecticut.....	9,177,620	11,454,011	7,562,166	5,470,874	5,884,845	5,890,233	4,037,599	3,045,569
Massachusetts.....	8,618,524	9,668,788	4,235,637	2,705,638	6,954,245	5,898,231	3,057,123	2,216,287
New Jersey.....	69,163,010	64,788,199	46,700,737	40,594,148	48,020,187	43,167,205	28,188,608	27,488,755
New York.....	15,454,751	15,217,298	10,896,809	7,545,565	9,102,192	9,042,488	6,382,758	4,333,114
Pennsylvania.....	90,727,907	65,569,386	43,552,924	26,853,629	57,451,134	35,772,192	20,822,530	12,992,199
Rhode Island.....	11,301,106	11,649,145	6,497,937	2,367,437	4,572,591	4,415,641	2,331,436	1,119,159
All other states.....	11,590,778	7,360,488	5,425,005	2,099,592	5,734,370	3,695,156	2,097,708	957,733
All-silk	142,713,359	114,876,641	97,870,717	68,437,218	96,689,801	74,471,291	55,944,988	42,573,279
Connecticut.....	5,691,366	7,724,079	6,812,551	4,814,129	3,817,321	4,146,923	3,656,747	2,613,795
New Jersey.....	52,049,169	52,403,047	42,327,218	36,415,300	36,905,379	35,553,705	25,594,661	24,499,799
New York.....	12,778,648	8,707,603	10,002,610	3,989,439	7,149,555	5,946,921	5,836,840	2,716,256
Pennsylvania.....	64,052,216	41,600,686	33,624,116	20,565,734	42,833,383	25,873,332	18,205,786	11,094,865
All other states.....	8,141,960	4,441,226	5,104,222	2,652,616	5,984,163	2,950,410	2,650,954	1,648,624
Silk-mixed	73,320,337	70,830,675	27,000,498	19,199,665	41,029,763	33,409,855	10,972,774	9,579,537
Connecticut.....	3,486,254	3,729,932	749,615	656,745	2,067,524	1,743,310	380,852	431,774
New Jersey.....	17,113,841	12,385,152	4,373,519	4,178,848	11,114,808	7,613,500	2,593,947	2,988,956
New York.....	2,676,103	6,509,695	894,199	3,556,126	1,952,637	3,095,567	545,918	1,616,858
Pennsylvania.....	26,675,691	23,968,700	9,928,808	6,287,895	14,617,751	9,898,860	2,616,744	1,897,394
Rhode Island.....	10,779,096	10,812,840	5,853,958	2,367,437	4,190,120	4,012,119	2,119,457	1,119,159
All other states.....	12,589,352	13,424,356	5,200,399	2,152,614	7,086,923	7,046,499	2,715,856	1,525,396
Yarn-dyed:								
All-silk	78,880,865	95,183,248	76,536,133	61,105,717	55,232,696	63,118,049	46,668,543	39,231,112
Connecticut.....	1,290,753	926,819	1,852,560	1,443,002	1,224,013	823,104	1,447,795	1,079,071
Massachusetts.....	3,058,187	1,717,102	1,149,292	665,153	2,809,121	1,253,922	1,043,576	766,054
New Jersey.....	30,805,567	47,639,175	38,452,447	34,720,625	22,256,489	32,353,539	23,419,627	23,593,857
New York.....	5,349,867	6,341,434	5,730,188	3,967,439	3,653,171	4,799,670	3,930,372	2,631,695
Pennsylvania.....	37,732,128	37,024,558	26,299,013	18,790,479	24,775,007	22,952,668	15,496,120	10,508,362
All other states.....	644,363	1,534,160	3,052,633	1,519,019	514,895	935,146	1,331,053	652,073
Silk-mixed	33,450,303	30,786,242	11,397,145	10,640,781	18,982,860	17,681,660	6,573,120	6,711,031
Connecticut.....	1,201,356	409,959	167,035	508,912	710,369	333,593	132,534	333,054
Massachusetts.....	5,254,349	5,371,901	2,876,345	2,020,101	3,854,926	3,288,570	1,931,547	1,437,799
New Jersey.....	8,844,572	8,800,823	3,042,286	3,797,848	5,943,296	5,778,947	2,154,012	2,834,456
New York.....	828,381	1,991,611	890,952	1,108,556	508,138	1,149,258	541,597	577,369
Pennsylvania.....	8,440,097	8,384,776	1,467,251	725,798	4,782,509	4,538,654	898,615	334,031
All other states.....	8,881,548	5,827,172	2,953,276	2,479,566	3,183,622	2,592,638	914,815	1,194,322
Piece-dyed and printed:								
All-silk	63,832,494	19,693,393	21,334,584	7,331,501	41,457,105	11,353,242	9,276,445	3,342,167
Connecticut.....	4,400,613	6,797,260	4,959,991	3,371,127	2,593,308	3,323,819	2,208,952	1,534,724
New Jersey.....	21,243,602	4,763,872	3,874,771	1,694,675	14,648,890	3,200,166	2,175,034	905,942
New York.....	7,428,781	2,366,169	4,272,422	22,000	3,496,384	1,147,251	1,906,468	84,561
Pennsylvania.....	26,320,088	4,576,128	7,325,103	1,775,255	18,058,376	2,920,664	2,709,666	586,443
All other states.....	4,439,410	1,189,964	902,297	468,444	2,660,147	761,342	276,325	230,497
Silk-mixed	39,870,034	40,044,433	15,603,353	8,558,884	22,046,903	15,728,195	4,399,654	2,868,506
Connecticut.....	2,284,898	3,319,973	582,580	147,833	1,357,155	1,409,717	248,318	98,720
New Jersey.....	8,269,269	3,584,329	1,331,233	381,000	5,171,512	1,834,553	439,935	154,500
New York.....	1,847,722	4,518,084	3,247	2,447,570	1,444,499	1,946,309	4,321	1,039,489
Pennsylvania.....	18,235,594	15,583,924	8,461,557	5,562,097	9,835,242	5,360,206	1,718,129	1,563,363
All other states.....	9,232,551	13,038,123	5,224,736	20,384	4,238,495	5,177,410	1,988,951	12,434
Velvets	16,318,135	10,093,583	7,262,315	5,122,249	8,570,022	4,767,990	3,161,206	2,479,903
Connecticut.....	15,385,563	9,741,329	7,154,387	4,261,208	8,060,314	4,519,238	3,096,449	2,087,639
All other states.....	932,572	352,254	107,928	861,041	509,708	248,752	64,757	392,264
Plushes	9,114,992	2,759,411	2,547,367	3,848,684	10,135,842	2,104,768	1,340,815	2,480,068
Connecticut.....	4,890,039	2,171,429	1,894,107	1,011,457	5,510,832	1,439,937	838,565	687,679
All other states.....	4,224,953	587,982	653,260	2,837,227	4,625,010	664,831	502,250	1,792,389
Upholstery and tapestries	477,699	226,717	1,766,210	1,333,119	840,126	382,820	1,559,982	1,009,835
Machine twist	<i>Pounds.</i> 659,540	<i>Pounds.</i> 1,088,780	<i>Pounds.</i> 932,998	<i>Pounds.</i> 987,917	4,036,807	6,341,719	5,521,055	5,997,974
Connecticut.....	434,893	573,031	614,729	545,423	2,621,887	3,524,361	3,618,824	3,354,546
All other states.....	224,647	515,749	318,269	442,494	1,414,920	2,817,358	1,902,231	2,643,428
Sewing and embroidery silks	744,708	660,507	606,357	477,658	5,046,452	3,778,306	3,927,954	3,276,826
Connecticut.....	268,800	255,322	167,485	145,032	1,816,544	1,581,544	953,636	977,213
All other states.....	475,908	405,185	438,872	332,626	3,229,694	2,196,762	2,974,318	2,299,613
Fringe and floss silks	157,791	86,739	205,354	261,643	598,354	401,049	697,062	971,390
Pennsylvania.....	127,458	56,402	106,073	128,262	497,478	213,320	344,173	542,130
All other states.....	30,333	30,337	99,281	133,381	100,876	187,729	352,889	429,260
Organzine and tram	4,070,401	2,740,319	2,025,645	2,468,387	16,023,928	12,550,510	9,190,650	11,167,191
Massachusetts.....	79,871	14,592	65,482	1,855	375,021	64,706	293,465	7,765
New Jersey.....	874,053	266,458	171,187	315,646	3,058,454	1,240,406	777,250	1,500,060
New York.....	1,004,506	330,026	99,866	48,263	4,058,804	1,354,540	420,718	207,500
Pennsylvania.....	1,306,686	1,642,004	1,396,424	1,723,791	5,163,732	7,475,327	6,124,717	8,011,151
All other states.....	805,285	487,239	292,686	378,832	3,367,917	2,415,531	1,574,500	1,440,717
Spun silk	1,607,416	779,462	570,529	437,459	4,577,058	2,104,066	1,660,647	1,026,227

Table 23—Continued.

PRODUCT AND STATE.	VALUE.				PRODUCT AND STATE.	VALUE.			
	1914	1909	1904	1899		1914	1909	1904	1899
Ribbons.....	\$38,201,293	\$32,744,873	\$21,890,604	\$18,467,179	Braids and bindings—continued.				
Connecticut.....	547,155	1,125,697	1,153,983	653,807	New York.....	\$1,958,162	\$2,566,881	\$2,042,365	\$388,391
New Jersey.....	17,924,186	14,971,005	10,036,331	8,341,721	Pennsylvania.....	476,743	539,732	424,277	119,573
New York.....	5,188,368	6,261,289	4,983,712	4,883,011	All other states.....	195,141	199,337	212,928	424,982
Pennsylvania.....	13,667,159	10,008,146	5,573,799	4,368,399	All other products.....	14,433,435	8,831,445	8,447,859	3,119,173
All other states.....	874,425	378,736	142,779	218,241	Connecticut.....	3,139,067	778,031	75,220	192,744
Laces, nets, veils, veillings, etc.....	1,328,933	1,350,850	745,489	803,104	Massachusetts.....	324,662	79,807	402,111	138,154
New Jersey.....	650,634	531,923	414,891	423,257	New Jersey.....	2,456,731	1,659,748	861,520	434,661
New York.....	652,189	794,640	291,400	377,047	New York.....	2,888,643	3,660,554	4,370,930	924,008
All other states.....	26,110	24,287	39,198	2,800	Pennsylvania.....	2,627,782	2,478,784	2,418,679	1,181,494
Fringes and gimps.....	1,025,188	824,527	1,016,954	444,787	Rhode Island.....	1,853,620	17,475	54,283	8,400
New York.....	665,894	560,027	544,544	195,528	All other states.....	1,142,930	157,046	265,116	239,712
All other states.....	359,294	264,500	472,410	249,259	Amount received for contract work.....	8,400,607	8,364,350	3,716,056	2,337,220
Braids and bindings.....	3,073,648	4,483,248	3,493,977	1,522,565	Connecticut.....	135,608	293,332	230,614	130,362
Connecticut.....	22,048	134,427	72,571	38,685	New Jersey.....	1,661,628	2,436,573	998,890	766,844
Massachusetts.....	186,620	286,308	337,380	388,339	New York.....	745,744	606,010	268,252	238,218
New Jersey.....	234,934	756,563	404,456	162,595	Pennsylvania.....	5,208,322	4,416,978	1,994,319	1,070,133
					All other states.....	649,310	611,457	223,981	125,663

Table 24

PRODUCT AND STATE.	PER CENT DISTRIBUTION OF THE QUANTITY OF PRODUCTS OF THE INDUSTRY IN THE STATES.				PRODUCT AND STATE.	PER CENT DISTRIBUTION OF THE QUANTITY OF PRODUCTS OF THE INDUSTRY IN THE STATES.			
	1914	1909	1904	1899		1914	1909	1904	1899
Broad silks.....	100.0	100.0	100.0	100.0	Broad silks—Continued.				
Pennsylvania.....	42.0	35.3	34.9	30.6	Piece-dyed and printed—				
New Jersey.....	32.0	34.9	37.4	46.3	All-silk.....	100.0	100.0	100.0	100.0
New York.....	7.2	8.2	8.7	8.6	Pennsylvania.....	41.2	23.2	34.3	24.2
Rhode Island.....	5.2	6.3	5.2	2.7	New Jersey.....	33.3	24.2	18.2	23.1
Connecticut.....	4.2	6.2	6.1	6.2	New York.....	11.6	12.0	20.0	0.3
Massachusetts.....	4.0	5.2	3.4	3.1	Connecticut.....	6.9	34.5	23.2	46.0
All other states.....	5.4	4.0	4.3	2.4	All other states.....	7.0	6.0	4.2	6.4
All-silk.....	100.0	100.0	100.0	100.0	Silk-mixed.....	100.0	100.0	100.0	100.0
Pennsylvania.....	44.9	36.2	34.4	30.1	Pennsylvania.....	45.7	38.9	54.2	65.0
New Jersey.....	36.5	45.6	43.2	53.2	New Jersey.....	20.7	9.0	8.5	4.5
New York.....	8.9	7.6	10.2	5.8	Connecticut.....	5.7	8.3	3.7	1.7
Connecticut.....	4.0	6.7	7.0	7.0	New York.....	4.6	11.3	—	28.6
All other states.....	5.7	3.9	5.2	3.9	All other states.....	23.2	32.5	33.5	0.2
Silk-mixed.....	100.0	100.0	100.0	100.0	Velvets.....	100.0	100.0	100.0	100.0
Pennsylvania.....	36.4	33.8	36.8	32.8	Connecticut.....	94.3	96.5	98.5	83.2
New Jersey.....	23.3	17.5	16.2	21.8	All other states.....	5.7	3.5	1.5	16.8
Rhode Island.....	14.7	15.3	21.7	12.3	Plushes.....	100.0	100.0	100.0	100.0
Connecticut.....	4.8	5.3	2.8	3.4	Connecticut.....	53.6	78.7	74.4	26.3
New York.....	3.6	9.2	3.3	18.5	All other states.....	46.4	21.3	25.6	73.7
All other states.....	17.2	18.9	19.3	11.2	Machine twist.....	100.0	100.0	100.0	100.0
Yarn—dyed—					Connecticut.....	65.9	52.6	65.9	55.2
All-silk.....	100.0	100.0	100.0	100.0	All other states.....	34.1	47.4	34.1	44.8
Pennsylvania.....	47.8	38.9	34.4	30.8	Sewing and embroidery silks.....	100.0	100.0	100.0	100.0
New Jersey.....	39.1	50.0	50.2	56.8	Connecticut.....	36.1	38.7	27.6	30.4
New York.....	6.8	6.7	7.5	6.5	All other states.....	63.9	61.3	72.4	69.6
Massachusetts.....	3.9	1.8	1.5	1.1	Fringe and floss silks.....	100.0	100.0	100.0	100.0
Connecticut.....	1.6	1.0	2.4	2.4	Pennsylvania.....	80.8	65.0	51.7	49.0
All other states.....	0.8	1.6	4.0	2.5	All other states.....	19.2	35.0	48.3	51.0
Silk-mixed.....	100.0	100.0	100.0	100.0	Organzine and tram.....	100.0	100.0	100.0	100.0
New Jersey.....	26.4	28.6	26.7	35.7	Pennsylvania.....	32.1	59.9	68.9	69.8
Pennsylvania.....	25.2	27.2	12.9	6.8	New York.....	24.7	12.0	4.9	2.0
Massachusetts.....	15.7	17.4	25.2	19.0	New Jersey.....	21.5	9.7	8.5	12.8
Connecticut.....	3.6	1.3	1.5	4.8	Massachusetts.....	2.0	0.5	3.2	0.1
New York.....	2.5	6.5	7.8	10.4	All other states.....	19.8	17.8	14.4	15.3
All other states.....	26.6	18.9	25.9	23.3					

Table 25

STATE.	Census year.	PER CENT DISTRIBUTION OF VALUE OF PRODUCTS OF THE INDUSTRY IN THE STATES.								
		Total.	Broad silks.	Velvets and plushes.	Ribbons.	Sewing and embroidery silks, machine twist, fringe, and floss silks.	Organzine and tram.	Fringes and gimps, braids and bindings.	All other products.	Contract work.
United States.....		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Connecticut.....	1914	12.0	4.3	72.6	1.4	46.2	(1)	0.5	25.8	1.6
	1909	10.7	5.5	86.7	3.4	48.6	(1)	2.5	14.6	3.5
	1904	11.7	6.0	87.4	5.3	45.1	(1)	1.8	10.3	6.2
	1899	11.5	5.8	56.0	3.6	44.4	(1)	2.0	11.9	5.8
Massachusetts.....	1914	4.2	5.0	—	(1)	(1)	2.3	4.6	4.8	(1)
	1909	4.5	5.5	—	(1)	(1)	0.5	5.5	3.6	(1)
	1904	5.3	4.6	—	(1)	(1)	3.2	7.5	5.7	(1)
	1899	5.6	4.2	—	(1)	(1)	(1)	21.2	8.3	(1)

1 Included in "all other states."

Table 25—Continued.

Table 25—Continued.	STATE.	Census year.	PER CENT DISTRIBUTION OF VALUE OF PRODUCTS OF THE INDUSTRY IN THE STATES.							
			Total.	Broad silks.	Velvets and plushes.	Ribbons.	Sewing and embroidery silks, machine twist, fringe, and floss silks.	Organ-zine and tram.	Fringes and gimps, braids and bindings.	All other products.	Contract work.
New Jersey.....	1914	29.8	34.9	(1)	46.9	(1)	19.1	6.3	15.3	19.8
	1909	33.2	40.0	(1)	45.7	(1)	9.9	14.8	18.3	29.1
	1904	32.2	42.1	(1)	45.8	(1)	8.5	9.6	11.8	26.9
	1899	37.3	52.7	(1)	45.2	(1)	13.4	8.2	17.3	32.8
New York.....	1914	11.5	6.6	(1)	13.6	(1)	25.3	64.0	20.8	8.9
	1909	13.5	8.4	(1)	19.1	(1)	10.8	58.9	39.9	7.2
	1904	15.1	9.5	(1)	22.8	(1)	4.6	57.3	46.2	7.2
	1899	11.8	8.3	(1)	26.4	(1)	1.9	29.7	30.7	10.2
Pennsylvania.....	1914	34.2	41.7	(1)	35.8	8.3	32.2	14.9	13.4	62.0
	1909	31.5	33.2	(1)	30.6	7.8	59.6	13.4	20.7	52.8
	1904	29.5	31.1	(1)	25.5	8.3	66.6	17.2	22.6	53.7
	1899	29.0	24.9	(1)	23.7	12.5	71.7	14.7	26.8	45.8
Rhode Island.....	1914	3.0	3.3	.....	.....	.....	.....	(1)	14.5	(1)
	1909	2.3	4.1	.....	.....	.....	.....	(1)	0.8	(1)
	1904	1.9	3.5	.....	.....	.....	.....	(1)	0.9	(1)
	1899	1.2	2.2	.....	.....	.....	.....	.....	0.2	(1)
All other states.....	1914	5.2	4.2	27.4	2.3	45.5	21.0	9.6	5.4	7.7
	1909	4.2	3.4	13.3	1.2	43.6	19.2	4.8	2.1	7.3
	1904	4.3	3.1	12.6	0.7	46.7	17.1	6.6	2.5	6.0
	1899	3.6	1.8	44.0	1.2	43.1	12.9	24.2	4.8	5.4

¹ Included in "All other states."

Imports compared with domestic manufactures.—Table 26 shows the statistics of domestic production as compared with the imports for the year ending December 31, 1914. The totals for imports were compiled from the quarterly statements of imported merchandise entered for consumption as prepared by the Bureau of Foreign and Domestic Commerce. These figures include with the "declared value" the amount of duty paid. The figures for domestic manufacture include, with the production in the silk industry proper, the production of silk goods in all other industries. (See Table 22.)

Table 26

	Domestic manufacture.	Imports for consumption. ¹
Silk goods, total value.....	\$301,471,366	\$35,974,787
Spun silk:		
Pounds.....	2,065,441	2,490,655
Value.....	\$5,244,011	\$6,445,179
Organ-zine:		
Pounds.....	1,492,999	2 89,368
Value.....	\$6,325,291	\$431,613
Tram:		
Pounds.....	2,577,402	10,409
Value.....	\$9,698,637	\$38,499
Sewing and embroidery silks, machine twist, and floss silk:		
Pounds.....	1,599,189	1,014
Value.....	\$9,893,006	\$5,751
Fabrics:		
Goods in the gray—	Value.	Value.
All-silk.....		³ \$4,574,123
Silk-mixed.....	\$3,629,805	² 146,582
Piece-dyed and printed—		
All-silk.....	41,675,261	6,179,574
Silk-mixed.....	22,046,903	961,134
Yarn-dyed—		
All-silk.....	55,232,696	2,280,997
Silk-mixed.....	18,982,860	730,298
Plushes.....	10,139,592	303,121
Velvets.....	8,570,022	3,259,932
Ribbons.....	38,209,557	⁴ 3,847,114
Laces and lace articles.....		1,963,179
Nets and nettings.....	1,328,933	1,349,325
Veils or veilings.....		576,466
Embroideries.....	33,500	224,781
Silk hosiery and knitted goods.....	46,697,014	1,902,154
All other products.....	23,764,278	

¹ Year ending Dec. 31, 1914, compiled from "Quarterly statements of merchandise entered for consumption."² Includes singles.³ Includes fabrics woven in the gum and ungummed.⁴ Includes velvet or plush ribbons to the value of \$1,592,303.

Contract work.—Table 27 shows, by states, the distribution of establishments in the silk-manufacturing industry reporting contract work. Of the 902 establishments in the industry in 1914, 167 finished or printed their own goods, 10 did finishing or printing for others, and 246 did custom weaving, warping, quilling, or throwing.

Table 27

STATE.	ESTABLISHMENTS IN THE INDUSTRY: 1914.			
	Total number.	Dyeing, finishing, or printing—		Custom weaving, warping, quilling, or throwing.
		Their own goods.	For others.	
United States.....	902	167	10	246
California.....	1	1		
Connecticut.....	44	21	2	9
Delaware.....	1			
Georgia.....	1			1
Illinois.....	3			
Maine.....	1	1		
Maryland.....	5	2		2
Massachusetts.....	19	6	1	3
Michigan.....	2	2		1
New Hampshire.....	2			1
New Jersey.....	368	58	3	84
New York.....	143	32	1	23
North Carolina.....	4	1		4
Ohio.....	1			
Pennsylvania.....	284	37	3	112
Rhode Island.....	12	3		2
Virginia.....	9	1		3
West Virginia.....	1			1
Wisconsin.....	1	1		

Equipment.—The progress of the industry is to some extent reflected by the increase or decrease in the number of active spindles, looms, knitting machines, and other equipment. Tables 28 to 32, inclusive, give detailed statistics of machinery used in 1914 and comparative data as reported at former censuses.

Spindles.—Table 28 shows the number of producing and winding spindles reported, respectively, by the

plants doing throwing, etc., only, and by other silk mills for 1914, 1909, and 1904.

KIND.	SPINDLES USED IN THE INDUSTRY.					
	1914	1909	1904	Per cent of increase. ¹		
				1904-1914	1909-1914	1904-1909
Producing spindles.....	2,159,271	1,761,758	1,394,020	54.9	22.6	26.4
In plants doing throwing, winding, etc., only.....	1,289,163	1,089,110	664,236	94.1	18.4	64.0
In other silk mills.....	870,108	672,648	729,784	19.2	29.4	-7.8
Winding spindles.....	710,102	624,711	624,686	13.7	13.7	(?)
In plants doing throwing, winding, etc., only.....	407,616	318,792	150,050	171.7	27.9	112.5
In other silk mills.....	302,486	305,919	474,636	-36.3	-1.1	-35.5

¹A minus sign (-) denotes decrease.

²Less than one-tenth of 1 per cent.

The increase during the decade in the number of producing spindles was relatively far greater than in that of winding spindles. The increase in the number of winding spindles was confined mainly to the latter half of the decade, while the per cent of increase in the number of producing spindles was greater during the five-year period 1904-1909.

There was an increase during the decade in the number of spindles in plants doing throwing, etc., only corresponding to a marked increase in the amount of silk reported as thrown by such concerns.

Table 29 shows, by states, the number of producing and winding spindles in plants doing throwing, etc., only and in other silk mills, as reported at the censuses of 1914 and 1909.

Table 29	STATE.	Census year.	SPINDLES USED IN THE INDUSTRY: 1914 AND 1909.											
			Producing spindles.									Winding spindles.		
			Aggregate.			In plants doing throwing, wind- ing, etc., only.			In other silk mills.			Total.	In plants doing throwing, winding, etc., only.	In other silk mills.
			Total.	Spinning and twist- ing.	Spinning only (spun silk).	Total.	Spinning and twist- ing.	Spinning only (spun silk).	Total.	Spinning and twist- ing.	Spinning only (spun silk).			
United States.....	1914 1909	2,159,271 1,761,758	2,057,889 1,681,453	101,382 80,305	1,289,163 1,089,110	1,247,967 1,055,834	41,196 33,276	870,108 672,648	809,922 625,619	60,186 47,029	710,102 624,711	407,616 318,792	302,486 305,919	
California.....	1914 1909	2,168 1,958	2,168 1,958	..... .....	..... .....	..... .....	..... .....	2,168 1,958	2,168 1,958	..... .....	1,176 1,216	..... .....	1,176 1,216	
Connecticut.....	1914 1909	141,712 118,302	95,864 93,214	45,848 25,088	28,936 28,540	28,936 28,540	..... .....	112,776 89,762	66,928 64,674	45,848 25,088	39,564 53,235	9,858 12,548	29,706 40,687	
Delaware.....	1914 1909	 3,264	 3,264	..... .....	..... .....	..... .....	..... .....	..... 3,264	 3,264	..... .....	..... 616	..... .....	..... 616	
Georgia.....	1914 1909	17,136 17,136	17,136 17,136	..... .....	17,136 17,136	17,136 17,136	..... .....	..... .....	..... .....	..... .....	1,766 1,766	1,766 1,766	..... .....	
Illinois.....	1914 1909	7,500 3,100	7,500 3,100	..... .....	7,500 3,100	7,500 3,100	..... .....	..... .....	..... .....	..... .....	25,000 4,200	25,000 4,200	..... .....	
Maine.....	1914 1909	4,970 4,740	4,970 4,740	..... .....	..... .....	..... .....	..... .....	4,970 4,740	4,970 4,740	..... .....	310 1,160	..... .....	310 1,160	
Maryland.....	1914 1909	19,060 20,148	19,060 20,148	..... .....	17,340 20,148	17,340 20,148	..... .....	1,720	1,720 .....	..... .....	9,660 6,798	8,520 6,780	1,140 18	
Massachusetts.....	1914 1909	122,156 99,699	110,356 88,175	11,800 11,524	11,404 11,028	6,132 6,220	5,272 4,808	110,752 88,671	104,224 81,955	6,528 6,716	17,530 20,418	2,540 3,972	14,990 16,446	
Michigan.....	1914 1909	17,204 12,326	17,204 12,326	..... .....	..... .....	..... .....	..... .....	17,204 12,326	17,204 12,326	..... .....	10,696 10,932	..... .....	10,696 10,932	
New Hampshire.....	1914 1909	3,700 3,696	3,700 3,696	..... .....	3,700 3,696	3,700 3,696	..... .....	..... .....	..... .....	..... .....	928 896	928 896	..... .....	
New Jersey.....	1914 1909	213,327 233,440	213,327 233,440	..... .....	128,608 170,801	128,608 170,801	..... .....	84,719 62,639	84,719 62,639	..... .....	155,968 166,307	63,514 87,035	92,454 79,272	
New York.....	1914 1909	164,620 159,559	141,066 133,254	23,554 26,305	141,518 127,498	125,054 115,698	16,464 11,800	23,102 32,061	16,012 17,556	7,090 14,505	52,367 69,022	39,497 34,479	12,870 34,543	
North Carolina.....	1914 1909	39,842 25,500	39,842 25,500	..... .....	2,600 19,500	2,600 19,500	..... .....	37,242 6,000	37,242 6,000	..... .....	20,748 8,524	13,660 7,656	7,088 868	
Ohio.....	1914 1909	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	2,960 .....	..... .....	2,960	
Pennsylvania.....	1914 1909	1,350,079 1,017,992	1,348,679 1,008,324	1,400 9,668	873,344 647,485	873,944 637,817	1,400 9,668	474,735 370,507	474,735 370,507	..... .....	362,455 267,171	234,139 151,232	128,316 115,939	
Rhode Island.....	1914 1909	18,780 7,720	..... .....	18,780 7,720	18,060 7,000	..... .....	18,060 7,000	720 720	..... .....	720 720	1,260 4,222	480	780 4,222	
Virginia.....	1914 1909	36,567 33,178	36,567 33,178	..... .....	36,567 33,178	36,567 33,178	..... .....	..... .....	..... .....	..... .....	6,754 8,228	6,754 8,228	..... .....	
West Virginia.....	1914 1909	450	450 .....	..... .....	450	450 .....	..... .....	..... .....	..... .....	..... .....	960	960 .....	..... .....	

Pennsylvania, New Jersey, and New York together reported 80 per cent of the total number of produc-

ing spindles in 1914, as compared with 80.1 per cent in 1909, and 82.1 per cent in 1904. Considerably

more than one-half of the total producing spindles in the United States were reported by Pennsylvania both in 1914 and 1909. New Jersey shows a decrease both in number of spindles and in the proportion which they represented of the total—9.9 per cent of the total number in 1914 as compared with 13.3 per cent in 1909.

Spinning and twisting spindles in plants doing throwing, etc., only were reported from 12 of the 16 states in which any throwing was done. Pennsylvania led with 67.9 per cent of the total number; New York was second with 11 per cent of the total; and New Jersey third with 10 per cent; these three states together reporting practically nine-tenths (88.9 per cent) of the total for the United States.

The use of spindles in connection with the manufacture of spun silk was confined to five states, Connecticut, New York, Rhode Island, Massachusetts, and Pennsylvania.

Winding spindles were reported for every state where the industry was carried on in 1914, except Delaware. They were fairly well distributed between plants doing throwing, winding, etc., only and other silk mills, the former reporting 57.4 per cent of the total, distributed through 13 states, and the latter 42.6 per cent, distributed through 12 states.

Table 30 shows by states, the number of establishments in the industry reporting the throwing of silk in 1914 and 1909, classified according to the number of spinning and twisting spindles reported. This table does not include the 101,382 spindles in 1914 and 80,305 in 1909 used in connection with the manufacture of spun-silk yarn.

Table 30—Contd.

Table 30—Contd.	Cen- sus year.	ESTABLISHMENTS IN THE INDUSTRY ENGAGED IN THROWING SILK: 1914 AND 1909.						
		Total num- ber.	Classified according to number of spinning and twisting spindles reported.					Total number of spin- ning and twisting spindles reported.
			Less than 2,500 spin- dles.	2,500 spin- dles but less than 5,000.	5,000 spin- dles but less than 10,000.	10,000 spin- dles but less than 15,000.	15,000 spin- dles or over.	
Hew Hampshire.....	1914 1909	1 1	..... .....	1 1	..... .....	..... .....	..... .....	3,700 3,696
New Jersey.....	1914 1909	52 69	30 45	7 6	10 9	2 7	3 2	213,327 233,440
New York.....	1914 1909	25 26	11 12	6 4	2 6	3 2	3 2	141,066 133,254
North Carolina.....	1914 1909	3 4	..... .....	1 2	 1	 1	2	39,842 25,500
Pennsylvania.....	1914 1909	115 97	23 25	19 12	28 23	17 18	28 19	1,348,679 1,008,324
Virginia.....	1914 1909	4 6	2 4	..... .....	1 1	..... .....	1 1	36,567 33,178
West Virginia.....	1914 1909	1	1 .....	..... .....	..... .....	..... .....	..... .....	450

Although the number of establishments in the industry engaged in the throwing of silks in 1914 was less than in 1909, the number of spinning and twisting spindles increased substantially, especially in mills with a large equipment; 41 mills reported 15,000 spindles or over in 1914, 28 of these being in Pennsylvania. Pennsylvania also contained 17 of the 26 establishments reporting from 10,000 to 15,000 spinning and twisting spindles. In New Jersey practically two-thirds of the establishments which did throwing had less than 2,500 spinning and twisting spindles.

Looms and Jacquard machines.—Table 31 shows, by states, statistics as to the number of active looms in the industry for 1914, 1909, 1904, and 1899.

Table 31

STATE AND CLASS.	LOOMS.						
	1914	1909	1904	1899	Per cent of increase. ¹		
					1909-1914	1904-1909	1899-1904
United States.....	85,058	75,406	60,058	44,430	12.8	25.6	35.2
On broad silks (including velvets).....	73,504	64,836	50,449	36,989	13.4	28.5	36.4
On ribbons.....	11,554	10,570	9,609	7,441	9.3	10.0	29.1
Connecticut.....	5,536	5,006	4,260	2,975	10.6	17.5	43.2
On broad silks.....	5,213	4,477	3,500	2,681	16.4	27.9	30.5
On ribbons.....	323	529	760	294	-38.9	-30.4	158.5
Massachusetts.....	3,279	2,717	1,610	1,040	20.7	68.8	54.8
On broad silks.....	3,267	2,708	1,466	896	20.6	84.7	63.6
On ribbons.....	12	9	144	144	.....	-93.8	.....
New Jersey.....	27,781	28,915	23,935	20,572	-3.9	20.8	16.3
On broad silks.....	23,049	24,423	19,917	17,656	-5.6	22.6	12.8
On ribbons.....	4,732	4,492	4,018	2,916	5.3	11.8	37.8
New York.....	7,862	7,575	6,989	5,268	3.8	8.4	32.7
On broad silks.....	5,981	5,375	4,761	3,020	11.3	12.9	57.6
On ribbons.....	1,881	2,200	2,228	2,248	-14.5	-1.3	-0.9
Pennsylvania.....	33,694	26,249	19,336	12,949	28.4	35.8	49.3
On broad silks.....	29,302	23,031	16,999	11,161	27.2	35.5	52.3
On ribbons.....	4,392	3,218	2,337	1,788	36.5	37.7	30.7
Rhode Island.....	3,045	2,511	1,706	533	21.3	47.2	220.1
On broad silks.....	3,045	2,511	1,706	533	21.3	47.2	220.1
On ribbons.....	.....	.....	.....	.....	.....	.....	.....
All other states.....	3,861	2,433	2,222	1,093	58.7	9.5	103.3
On broad silks.....	3,647	2,311	2,100	1,042	57.8	10.0	101.5
On ribbons.....	214	122	122	51	75.4	.....	.....

¹ A minus sign (—) denotes decrease; percentages are omitted where base is less than 100.

Table 30

STATE.	Cen- sus year.	ESTABLISHMENTS IN THE INDUSTRY ENGAGED IN THROWING SILK: 1914 AND 1909.						
		Total num- ber.	Classified according to number of spinning and twisting spindles reported.					Total number of spin- ning and twisting spindles reported.
			Less than 2,500 spin- dles.	2,500 spin- dles but less than 5,000.	5,000 spin- dles but less than 10,000.	10,000 spin- dles but less than 15,000.	15,000 spin- dles or over.	
United States.....	1914 1909	243 250	88 110	41 35	47 45	26 33	41 27	2,057,889 1,681,453
California.....	1914 1909	1 1	1 1	..... .....	..... .....	..... .....	..... .....	2,168 1,958
Connecticut.....	1914 1909	24 30	13 18	4 6	5 4	1 1	1 1	95,864 93,214
Delaware.....	1914 1909	1 .....	..... .....	1 .....	..... .....	..... .....	..... .....	3,264
Georgia.....	1914 1909	1 1	..... .....	..... .....	..... .....	..... .....	1 1	17,136 17,136
Illinois.....	1914 1909	1 1	..... .....	..... 1	1 .....	..... .....	..... .....	7,500 3,100
Maine.....	1914 1909	1 1	..... .....	1 1	..... .....	..... .....	..... .....	4,970 4,740
Maryland.....	1914 1909	4 2	3 .....	..... .....	..... 1	 1	1	19,060 20,148
Massachusetts.....	1914 1909	8 9	4 5	1 1	..... .....	2 2	1 1	110,356 88,175
Michigan.....	1914 1909	2 1	..... .....	1 .....	..... .....	1 1	..... .....	17,204 12,326

The total number of looms in operation nearly doubled during the fifteen-year period, though the increase from 1909 to 1914 was smaller, absolutely as well as relatively, than during either of the earlier five-year periods. The figures include 173 hand looms for 1899 and 283 for 1904, but the number of hand looms in use in 1909 and 1914 was not separately reported. The number of looms employed on broad silks and velvets constituted 86.4 per cent of the total in 1914, 86 per cent in 1909, 84 per cent in 1904, and 83.3 per cent in 1899.

Table 32 presents a summary, by states, of the number of the different kinds of looms and the number of Jacquard machines in use in the silk-manufacturing industry during 1914 and 1909.

Fourteen of the 19 states in which the industry was carried on reported looms, but nearly three-fourths of the total number were in the two leading states, New Jersey and Pennsylvania, which in 1914 reported 32.7 per cent and 39.6 per cent, respectively, of the total number. New York reported 9.2 per cent of the total number of looms in operation.

New Jersey and Pennsylvania together reported about two-thirds of the looms of over 40-inch reed space; these states also reported more than three-fourths of the looms of 40-inch reed space or less, the number in Pennsylvania being somewhat the greater.

Connecticut reported about four-fifths (82.3 per cent) of the velvet looms, and New Jersey, Pennsylvania, and New York together 95.2 per cent of the ribbon looms, New Jersey alone reporting 41 per cent of the total. Eight states reported Jacquard machines in 1914, nearly two-thirds of the total number being in New Jersey. The decrease during the last five years

in the number of Jacquard machines accompanied the decline in the manufacture of yarn-dyed goods.

Table 32

STATE.	Cen- sus year.	LOOMS.						Jac- quard ma- chin- es.
		Total.	Other than velvet and ribbon.			Vel- vet.	Rib- bon.	
			Total. .	Over 40- inch reed space.	40- inch or less reed space.			
United States.....	1914 1909	85,058 75,406	70,980 63,640	44,549	26,431	2,524 1,196	11,554 10,570	6,826 8,985
California.....	1914 1909	10	10 .....	.....	.....	.....	.....	4
Connecticut.....	1914 1909	5,536 5,006	3,137 3,406	2,473	664	2,076 1,071	323 529	308 305
Delaware.....	1914 1909	138 210	102 174	102 .....	.....	.....	36 36	.....
Maine.....	1914 1909	126 158	126 158	56	70 .....	.....	.....	.....
Maryland.....	1914 1909	124 86	.....	.....	.....	.....	124 86	.....
Massachusetts.....	1914 1909	3,279 2,717	3,267 2,708	1,945	1,322 .....	.....	12 9	152 211
Michigan.....	1914 1909	766 716	766 716	756	10 .....	.....	.....	.....
New Hampshire.....	1914 1909	1,090	1,090	831	259 .....	.....	.....	40
New Jersey.....	1914 1909	27,781 28,915	22,873 24,391	13,953	8,920	176 32	4,732 4,492	4,563 5,797
New York.....	1914 1909	7,862 7,575	5,919 5,348	3,335	2,584	62 27	1,881 2,200	697 594
North Carolina.....	1914 1909	516 361	516 361	205	311 .....	.....	.....	.....
Ohio.....	1914 1909	449 504	449 504	293	156 .....	.....	.....	.....
Pennsylvania.....	1914 1909	33,694 26,249	29,092 22,965	17,541	11,551	210 66	4,392 3,218	939 1,874
Rhode Island.....	1914 1909	3,045 2,511	3,045 2,511	2,869	176 .....	.....	.....	2
Virginia.....	1914 1909	652 388	598 388	190	408 .....	.....	54	125 200

DETAIL STATE TABLES.

The principal statistics secured by the census inquiry concerning the silk-manufacturing industry are presented by states in Tables 33 and 34.

Table 33 shows, for 1914, 1909, and 1904, by states, the number of establishments, average number of

wage earners, primary horsepower, wages, cost of materials, and value of products as reported for the industry.

Table 34 presents for 1914, by states, the more detailed statistics of the industry.

TABLE 33.—COMPARATIVE SUMMARY, BY STATES, FOR 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost. of ma- terials.	Value of prod- ucts.	STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Wages.	Cost of ma- terials.	Value of prod- ucts.
					Expressed in thousands.								Expressed in thousands.		
United States.....	1914	902	108,170	116,924	\$47,108	\$144,442	\$254,011	New York.....	1914	143	11,659	14,707	\$4,967	\$16,736	\$29,261
	1909	852	99,037	97,947	38,570	107,767	196,912		1909	170	12,903	11,110	5,385	13,949	26,519
	1904	624	79,601	71,760	26,768	75,861	133,288		1904	123	11,283	7,250	4,268	10,490	20,181
Connecticut.....	1914	44	10,668	11,160	5,606	18,406	30,592	Pennsylvania.....	1914	284	44,755	48,915	16,312	48,795	86,939
	1909	47	8,703	8,564	3,749	11,834	21,063		1909	226	36,469	41,962	11,443	35,166	62,061
	1904	43	7,792	7,821	3,124	9,098	15,624		1904	168	26,915	28,390	6,973	24,267	39,334
Maryland.....	1914	5	874	1,012	283	424	911	Rhode Island.....	1914	12	2,325	3,509	1,192	5,327	7,664
	1909	4	655	915	160	237	512		1909	13	1,685	2,318	788	3,188	4,584
	1904	3	175	765	48	171	273		1904	8	1,291	1,645	480	1,696	2,556
Massachusetts.....	1914	19	4,495	6,635	2,092	5,961	10,677	Virginia.....	1914	9	691	1,798	210	1,094	1,773
	1909	19	4,109	5,305	1,840	5,430	8,942		1909	7	819	1,858	261	1,011	1,544
	1904	18	3,261	4,221	1,162	4,157	7,012		1904						
New Jersey.....	1914	368	28,263	21,218	14,800	40,883	75,706	All other states.....	1914	18	4,440	7,970	1,646	6,816	10,488
	1909	348	30,285	22,376	13,917	33,265	65,430		1909	18	3,409	3,539	1,027	3,687	6,257
	1904	239	25,481	16,903	9,893	22,339	42,863		1904	22	3,403	4,765	820	3,643	5,445

TABLE 34.—DETAIL STATISTICS FOR THE SILK-MANUFACTURING INDUSTRY, BY STATES: 1914.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.				Capital.	EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Officials.	Clerks, etc.	
					Male.	Fe-male.	Average number.	Number, 15th day of—			Male.	Fe-male.	Male.				Fe-male.
								Maximum month.	Minimum month.								
United States	902	115, 571	591	1, 724	3, 625	1, 461	108, 170	My 112, 761	De 100, 045	106, 508	40, 960	57, 860	2, 461	5, 227	\$210, 071, 679	\$4, 914, 881	\$5, 592, 024
Connecticut	44	11, 731	25	170	604	264	10, 668	Jy 11, 224	No 9, 804	10, 248	5, 412	4, 489	129	218	49, 931, 036	644, 198	964, 539
Maryland	5	905	5	11	7	8	874	Ap 960	De 678	888	324	368	95	101	712, 794	37, 800	7, 682
Massachusetts	19	4, 724	10	44	117	58	4, 495	Ja 4, 709	Au 4, 206	4, 533	1, 401	3, 019	49	64	11, 089, 598	238, 632	352, 330
New Jersey	368	30, 344	294	513	942	332	28, 263	My 29, 674	De 25, 845	27, 766	12, 957	14, 222	186	401	47, 430, 855	1, 407, 438	1, 449, 397
New York	143	12, 669	109	234	492	175	11, 659	My 12, 037	De 10, 698	11, 495	5, 126	6, 025	153	191	21, 363, 281	621, 629	684, 292
Pennsylvania	284	47, 107	140	614	1, 165	433	44, 755	Jy 47, 045	No 40, 984	44, 051	13, 030	25, 502	1, 733	3, 786	63, 916, 124	1, 632, 010	1, 657, 660
Rhode Island	12	2, 412	4	21	33	19	2, 325	Fe 2, 429	Ap 2, 120	2, 266	908	1, 271	6	81	6, 321, 467	103, 515	93, 198
Virginia	9	723	-----	13	12	7	691	Je 805	No 565	663	204	342	49	68	963, 073	37, 268	27, 451
All other states ¹	18	4, 956	4	94	253	165	4, 440	-----	-----	4, 598	1, 598	2, 622	61	317	8, 343, 451	192, 391	355, 475

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					Elec-tric horse-power generated in es-tablish-ments report-ing.
	Salaries and wages—Contd.	For con-tract work.	Rent and taxes.		For materials.				Primary horsepower.					
			Rent of factory.	Taxes, includ-ing in-ternal revenue and cor-poration income.	Principal materials.	Fuel and rent of power.			Total.	Steam en-gines. ²	Inter-nal-com-bus-tion en-gines. ³	Water wheels and mo-tors. ²	Elec-tric (rented).	
United States	\$47, 108, 469	\$14, 550, 762	\$1, 289, 008	\$742, 889	\$142, 119, 637	\$2, 322, 684	\$254, 011, 257	\$109, 568, 936	116, 924	78, 302	7, 269	7, 605	23, 748	23, 653
Connecticut	5, 606, 338	702, 973	106, 953	157, 880	18, 086, 763	319, 489	30, 591, 825	12, 185, 573	11, 160	8, 134	-----	1, 081	1, 945	4, 606
Maryland	282, 760	84, 677	130	3, 935	405, 657	17, 858	910, 882	487, 367	1, 012	860	-----	-----	152	-----
Massachusetts	2, 091, 891	234, 414	11, 677	53, 899	5, 852, 544	108, 593	10, 676, 681	4, 715, 544	6, 635	1, 805	704	1, 587	2, 539	913
New Jersey	14, 800, 354	5, 823, 637	587, 152	193, 158	40, 253, 178	629, 687	75, 706, 449	34, 823, 584	21, 218	12, 519	3, 945	420	4, 334	2, 931
New York	4, 966, 625	1, 041, 562	288, 946	68, 493	16, 463, 532	272, 689	29, 260, 763	12, 524, 542	14, 707	8, 221	968	1, 330	4, 188	2, 484
Pennsylvania	16, 311, 788	6, 098, 112	270, 059	163, 005	47, 988, 665	806, 816	86, 938, 554	38, 143, 073	48, 915	37, 448	1, 562	840	9, 065	9, 737
Rhode Island	1, 191, 969	290, 794	7, 311	43, 198	5, 271, 156	55, 438	7, 664, 472	2, 337, 878	3, 509	2, 675	30	400	404	1, 210
Virginia	210, 331	24, 013	7, 400	4, 277	1, 076, 863	16, 989	1, 772, 931	679, 079	1, 798	1, 005	60	490	243	478
All other states ³	1, 646, 413	250, 580	9, 380	55, 044	6, 721, 279	95, 125	10, 488, 700	3, 672, 296	7, 970	5, 635	-----	1, 457	878	1, 294

¹ All other states embrace: California, 1 establishment; Delaware, 1; Georgia, 1; Illinois, 3; Maine, 1; Michigan, 2; New Hampshire, 2; North Carolina, 4; Ohio, 1; West Virginia, 1; Wisconsin, 1.

² Owned power only.

³ Includes rented power other than electric.

CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.

By CLYTUS A. FREEMAN.

GENERAL STATISTICS.

Scope of the industries.—This report presents the statistics for three classes of establishments, distinguished with respect to their primary products, as follows: (1) Those producing rope, binder twine, and cordage; (2) those producing gunny bagging and other goods in which jute is the principal material; and (3) those producing crash, towels and toweling, and other fabrics made chiefly from flax, linen thread, and yarn, etc. Separate statistics for each of these industries are presented in most of the tables, but in a few cases figures are given only for the group as a whole. This arrangement permits the publication of more detailed statistics than would otherwise be possible. At the census of 1909 the report covered also the manufacture of nets and seines. In order to make the figures for that year comparable with those for 1914, the industry has been excluded in the present restatement. Therefore, the figures for this group of industries will not agree with those published in 1909.

Summary for the three industries.—Table 1 presents a summary of the statistics of the group as a whole and of each of the industries for each census from 1889 to 1914, inclusive.

The total value of products and the total cost of materials for the group and for the industries composing it involve a certain amount of duplication, by reason of the use of the products of one establishment as materials for other establishments in the same industry or in another industry in the group. Some of the establishments that make cordage and twine, for example, use as material yarn produced by other establishments engaged in the same industry. Similar duplications exist in the statistics for the jute-goods and linen-goods industries. Such duplications must be taken into account when using the census figures for statistical purposes. In the value added by manufacture, however, practically all duplication is eliminated, so that this item affords a fair basis for a comparison of the different industries. Large quantities of cordage and twine are manufactured in penal institutions that are not covered by the census, and, as shown by the note to Table 10, cordage and twine, jute goods, and linen goods, to the value of \$5,480,558 in 1914, were manufactured in establishments engaged primarily in other lines of industry. Therefore, the figures presented in this report should not be accepted as representing the entire production.

Table 1

	CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.					Per cent of increase. ¹			
	1914	1909	1904	1899	1889	1909-1914	1904-1909	1899-1904	1889-1899
CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.									
Number of establishments.....	160	151	133	141	162	6.0	13.5	-5.7	.....
Persons engaged.....	28,909	26,193	25,554	21,644	(2)	10.4	2.5	18.1	.....
Proprietors and firm members.....	57	72	54	100	(2)				.....
Salaried employees.....	1,529	1,255	992	641	(2)				.....
Wage earners (average number).....	27,323	24,866	24,508	20,903	15,519	21.8	26.5	54.8	.....
Primary horsepower.....	93,937	77,091	65,984	47,733	27,644	9.9	1.5	17.2	.....
Capital.....	\$98,561,044	\$73,552,315	\$54,423,531	\$41,991,762	\$27,731,649	21.9	16.8	38.2	.....
Salaries and wages.....	13,886,970	10,628,783	10,075,517	7,288,931	5,481,559	34.0	35.1	29.6	.....
Salaries.....	2,445,247	1,785,541	1,494,732	957,190	(2)	30.7	5.5	38.2	.....
Wages.....	11,441,723	8,843,242	8,580,785	6,331,741	(2)	37.0	19.5	56.2	.....
Paid for contract work.....	21,810	13,375	253,944	26,118	(2)	29.4	3.1	35.5	.....
Rent and taxes (including internal revenue).....	701,740	575,849	346,129	381,423	(2)				.....
Cost of materials.....	60,474,417	39,536,892	44,890,546	32,197,885	26,148,344	21.9	23.8	21.9	.....
Value of products.....	83,235,068	59,121,989	62,939,329	47,601,607	37,313,021	53.0	-11.9	39.4	.....
Value added by manufacture (value of products less cost of materials).....	22,760,651	19,585,097	18,043,783	15,403,722	11,164,677	40.8	-6.1	32.2	.....
CORDAGE AND TWINE.									
Number of establishments.....	105	112	102	105	150	-6.3	9.8	-2.9	-30.0
Persons engaged.....	16,849	15,559	15,396	13,627	(2)	8.3	1.1	13.0	.....
Proprietors and firm members.....	38	61	51	77	(2)				.....
Salaried employees.....	1,042	869	731	436	(2)				.....
Wage earners (average number).....	15,769	14,629	14,614	13,114	12,385	19.9	18.9	67.7	.....
Primary horsepower.....	55,377	47,269	41,041	33,657	23,666	7.8	0.1	11.4	5.9
Capital.....	\$72,472,169	\$52,304,938	\$37,110,521	\$29,275,470	\$23,351,833	17.2	15.2	21.9	42.2
Salaries and wages.....	8,624,886	6,505,512	6,338,038	4,780,048	4,536,871	38.6	40.9	26.8	25.4
Salaries.....	1,629,290	1,201,122	999,860	666,936	(2)	32.6	2.6	32.6	5.4
Wages.....	6,995,596	5,304,390	5,338,178	4,113,112	(2)	35.6	20.1	49.9	.....
Paid for contract work.....	1,455	13,375	252,472	3,721	(2)	31.9	-0.6	29.8	.....
Rent and taxes (including internal revenue).....	457,018	313,892	256,513	223,604	(2)				.....
Cost of materials.....	43,605,473	29,315,402	36,095,747	26,632,006	24,051,666	45.6	22.4	14.7	.....
Value of products.....	59,761,486	41,941,541	48,017,139	37,849,651	33,312,559	48.7	-18.8	35.5	10.7
Value added by manufacture (value of products less cost of materials).....	16,156,013	12,626,139	11,921,392	11,217,645	9,260,893	42.5	-12.7	26.9	13.6
						28.0	5.9	6.3	21.1

¹ A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100, or where figures are not strictly comparable.
² Figures not available.
³ Exclusive of internal revenue.

Table 1—Continued.

Table 1—Continued.	CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.								
	1914	1909	1904	1899	1889	Per cent of increase. ¹			
						1909-1914	1904-1909	1899-1904	1889-1899
JUTE GOODS.									
Number of establishments.....	34	24	16	18	7				
Persons engaged.....	8,307	6,901	6,238	4,606	(²)	20.4	10.6	35.4	
Proprietors and firm members.....	17	10	3	12	(²)				
Salaried employees.....	303	227	152	88	(²)	33.5	49.3	72.7	
Wage earners (average number).....	7,987	6,664	6,083	4,506	1,194	19.9	9.6	35.0	
Primary horsepower.....	28,628	20,993	18,810	8,191	1,532	36.4	11.6	129.6	
Capital.....	\$17,279,006	\$13,789,951	\$11,019,132	\$7,027,293	\$1,645,636	25.3	25.1	56.8	
Salaries and wages.....	3,575,314	2,701,172	2,248,027	1,329,103	391,586	32.4	20.2	69.1	
Salaries.....	515,304	375,531	330,041	147,313	(²)	37.2	13.8	124.0	
Wages.....	3,060,010	2,325,641	1,917,986	1,181,790	(²)	31.6	21.3	62.3	
Paid for contract work.....	19,781			22,397	(²)				
Rent and taxes (including internal revenue)...	164,801	204,120	³ 159,342	³ 98,004	(²)	-19.3	28.1	62.6	
Cost of materials.....	12,579,840	6,254,918	5,054,130	3,015,362	501,909	101.1	23.8	67.6	
Value of products.....	16,513,874	10,795,230	9,065,802	5,383,797	1,120,121	53.0	19.1	68.4	
Value added by manufacture (value of products less cost of materials).....	3,934,034	4,540,312	4,011,672	2,368,435	618,212	-13.4	13.2	69.4	
LINEN GOODS.									
Number of establishments.....	21	15	15	18	5				
Persons engaged.....	3,753	3,733	3,920	3,411	(²)	0.5	-4.8	14.9	
Proprietors and firm members.....	2	1		11	(²)				
Salaried employees.....	184	159	109	117	(²)	15.7	45.9	-6.8	
Wage earners (average number).....	3,567	3,573	3,811	3,283	1,940	-0.2	-6.2	16.1	69.2
Primary horsepower.....	9,932	8,829	6,133	5,885	2,446	12.5	44.0	4.2	140.6
Capital.....	\$8,809,869	\$7,457,426	\$6,293,878	\$5,688,999	\$2,734,130	18.1	18.5	10.6	108.1
Salaries and wages.....	1,686,770	1,422,099	1,489,452	1,179,780	553,102	18.6	-4.5	26.2	113.3
Salaries.....	300,653	208,888	164,831	142,941	(²)	43.9	26.7	15.3	
Wages.....	1,386,117	1,213,211	1,324,621	1,036,839	(²)	14.3	-8.4	27.8	
Paid for contract work.....	574		1,522		(²)				
Rent and taxes (including internal revenue)...	79,921	57,837	³ 49,274	³ 59,815	(²)	38.2	17.4	-17.6	
Cost of materials.....	4,289,104	3,966,572	3,740,669	2,550,517	1,594,769	8.1	6.0	46.7	59.9
Value of products.....	6,959,708	6,385,218	5,856,388	4,368,159	2,880,341	9.0	9.0	34.1	51.7
Value added by manufacture (value of products less cost of materials).....	2,670,604	2,418,646	2,115,719	1,817,642	1,285,572	10.4	14.3	16.4	41.4

¹ A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100, or where figures are not strictly comparable.

² Figures not available.

³ Exclusive of internal revenue.

The cordage and twine industry in 1914 reported 65.6 per cent of the total number of establishments in the group, 57.7 per cent of the average number of wage earners, and 71.8 per cent of the total value of products. The jute-goods industry reported 21.3 per cent of the total number of establishments, 29.2 per cent of the total number of wage earners, and 19.8 per cent of the total value of products. The 21 establishments engaged in making linen goods employed 13.1 per cent of the wage earners and reported 8.4 per cent of the total value of products. While all of the industries developed rapidly during the 25 years covered by Table 1, the most pronounced increases were those for the five-year periods from 1899 to 1904 and from 1909 to 1914. There was a decrease in the number of establishments for cordage and twine and an increase in the number for both jute and linen goods, so the total number for all three industries was somewhat greater in 1914 than in 1909.

So far as can be judged from the information now available, the manufacture of jute bagging in 1889 was reported by establishments classed in two different industries—"jute goods" and "bagging, flax, hemp, and jute." Seven establishments were reported in the "jute-goods" industry in 1889 and 18 in 1899, yet only two came into existence during the decade, the remaining establishments probably having been included among the 16 classed as "bagging, flax, hemp, and jute" for 1889. The latter industry designation was abandoned at the census of 1899, and the establishments included in it at previous censuses were included in comparative tables with "bags, other

than paper." Since the designation "bagging, flax, hemp, and jute" was not limited to manufacturers of jute bagging, the entire 16 establishments could not be combined with those reported under "jute goods." Making due allowance for this deficiency, however, it is evident that the jute-goods industry made remarkable strides during the period covered by the table.

Summary, by states.—Twenty-seven states reported one or more establishments engaged in the manufacture of cordage and twine, 64 of these being located in the New England and North Atlantic states. Table 13 presents detailed figures for all the states for which separate statistics can be shown without disclosing individual operations. Illinois and Massachusetts ranked first and second, respectively, in 1914 in the value of their products, though the statistics could not be presented in the table. New York, Pennsylvania, and New Jersey, the leading states shown in the table, ranked, respectively, third, fourth, and fifth.

Among the 12 states which report the manufacture of jute goods, Massachusetts and New York, for which figures could not be presented separately, ranked first and second in the value of their products. The three states shown in the table—Pennsylvania, North Carolina, and Georgia—ranked third, sixth, and ninth among all the states.

Massachusetts ranked second among the states in the production of linen goods, New Jersey being first.

Persons engaged in the industries.—Table 2 presents for 1909 and 1914 the number of persons engaged in the industry group as a whole, and in each of the in-

dustries separately, distributed according to occupational status and sex, the average number of wage earners being distributed also according to age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

Table 2		CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.									
	Census year.	All classes	Proprietors and officials.				Clerks and other subordinate salaried employees.	Wage earners.			
			Total.	Proprietors and firm members.	Salaried officers of corporations.	Superintendents and managers.		Average number.	16 years of age and over.	Under 16 years of age.	
Total.....	1914	28,909	546	57	176	313	1,040	27,323	26,195	1,128	
	1909	26,193	442	72	145	225	885	24,866	23,267	1,599	
Male.....	1914	15,879	535	54	169	312	747	14,597	14,153	444	
	1909	14,291	430	64	141	225	676	13,185	12,315	870	
Female.....	1914	13,030	11	3	7	1	293	12,726	12,042	684	
	1909	11,902	12	8	4	.....	209	11,681	10,952	729	
CORDAGE AND TWINE.											
Total.....	1914	16,849	373	38	121	214	707	15,769	15,121	648	
	1909	15,559	331	61	108	162	599	14,629	13,794	835	
Male.....	1914	10,266	364	36	115	213	492	9,410	9,183	227	
	1909	9,461	320	53	105	162	449	8,692	8,202	490	
Female.....	1914	6,583	9	2	6	1	215	6,359	5,938	421	
	1909	6,098	11	8	3	.....	150	5,937	5,592	345	
JUTE GOODS.											
Total.....	1914	8,307	115	17	38	60	205	7,987	7,714	273	
	1909	6,901	64	10	22	32	173	6,664	6,281	383	
Male.....	1914	4,075	113	16	37	60	158	3,804	3,657	147	
	1909	3,186	63	10	21	32	137	2,986	2,765	221	
Female.....	1914	4,232	2	1	1	.....	47	4,183	4,057	126	
	1909	3,715	1	.....	1	.....	36	3,678	3,516	162	
LINEN GOODS.											
Total.....	1914	3,753	58	2	17	39	128	3,567	3,360	207	
	1909	3,733	47	1	15	31	113	3,573	3,192	381	
Male.....	1914	1,538	58	2	17	39	97	1,383	1,313	70	
	1909	1,644	47	1	15	31	90	1,507	1,348	159	
Female.....	1914	2,215	.....	.....	.....	.....	31	2,184	2,047	137	
	1909	2,089	.....	.....	.....	.....	23	2,066	1,844	222	

During 1914 there were 28,909 persons engaged in the manufacture of cordage and twine, jute goods, and linen goods. While this was an increase of 2,716 over the number reported for 1909, the increase was confined almost entirely to the manufacture of cordage and twine and jute goods, there being an increase of only 20 in the manufacture of linen goods. There was a decrease of 471 in the total number of wage earners under 16 years of age, each one of the industries showing a smaller number of children employed in 1914 than in 1909. Female wage earners predominate in the manufacture of jute goods and linen goods, and males in the cordage and twine industry.

The average number of wage earners distributed by sex and age is not shown for the individual states, but Table 13 gives such a distribution of the number employed on December 15, or the nearest representative day, for 1914.

Wage earners employed, by months.—Table 3 gives, for the group as a whole and for each of the industries composing it, the number of wage earners employed on the 15th (or the nearest representative day) of each month during the year 1914.

Table 3		WAGE EARNERS IN THE CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES: 1914. [Month of maximum employment for each industry is indicated by bold-face figures and that of minimum by <i>italic</i> .]			
MONTH.		Combined industries.	Cordage and twine.	Jute goods.	Linen goods.
January.....		28,191	16,287	8,221	3,683
February.....		28,342	16,427	8,234	3,681
March.....		28,505	16,478	8,308	3,719
April.....		28,716	16,629	8,383	3,704
May.....		28,490	16,521	8,366	3,603
June.....		28,293	16,516	8,326	3,451
July.....		27,987	16,346	8,266	3,375
August.....		<i>24,927</i>	<i>15,445</i>	8,060	3,422
September.....		25,417	14,028	7,891	3,498
October.....		26,788	15,708	7,491	3,589
November.....		26,055	15,288	7,237	3,530
December.....		26,165	15,565	7,061	3,549

This table shows that the greatest number of wage earners were employed in all three industries during the months of March, April, and May. The largest number for the group as a whole (28,716) was reported for April and the smallest (24,927) for August.

The months of maximum and minimum employment in 1914, and the number of wage earners reported for these months, are given by states in Table 13. A considerable variation is shown in the numbers employed during different seasons of the year in some of the states.

Prevailing hours of labor.—In Table 4 the wage earners in each of the three industries have been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. In making this classification the average number of wage earners employed during the year in each establishment was used as a total according to the hours prevailing in that establishment, even though a few employees worked a greater or smaller number of hours.

Table 4		AVERAGE NUMBER OF WAGE EARNERS EMPLOYED IN 1914 IN—			
PREVAILING HOURS OF LABOR PER WEEK.		Combined industries.	Cordage and twine.	Jute goods.	Linen goods.
Total.....		27,323	15,769	7,987	3,567
48 and under.....		669	573	6	90
Between 48 and 54.....		213	154	59	.....
54.....		16,238	8,469	6,153	1,616
Between 54 and 60.....		7,767	4,512	1,409	1,846
60.....		2,295	1,939	341	15
Between 60 and 72.....		141	122	19	.....

Practically all (96.3 per cent) of the wage earners employed in these industries in 1914 were in establishments where the prevailing hours were from 54

to 60 per week, inclusive. Only one-half of one per cent worked in establishments where the prevailing hours of employment were more than 60 per week, and only 3.2 per cent in establishments where the prevailing hours were less than 54 per week.

Character of ownership.—Table 5 presents statistics concerning the character of ownership, or legal organization, of the establishments in the group of industries as a whole. Figures can not be shown for each industry separately, without disclosing the operations of individual establishments.

CHARACTER OF OWNERSHIP.	Census year.	CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.			
		Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes.....	1914 1909	160 151	27,323 24,866	\$83,235,068 59,121,989	\$22,760,651 19,585,097
Individuals.....	1914 1909	33 30	780 509	1,997,745 1,002,207	732,431 305,449
Corporations.....	1914 1909	114 105	22,841 23,771	72,823,954 56,948,240	20,254,969 18,807,493
All others.....	1914 1909	13 16	3,702 586	8,413,369 1,171,542	1,773,251 472,155
Per cent distribution:					
Individuals.....	1914 1909	20.6 19.9	2.9 2.0	2.4 1.7	3.2 1.6
Corporations.....	1914 1909	71.3 69.5	83.6 95.6	87.5 96.3	89.0 96.0
All others.....	1914 1909	8.1 10.6	13.5 2.4	10.1 2.0	7.8 2.4

It is evident from this table that the corporate form of ownership largely predominates in the manufacture of cordage, twine, jute, and linen goods. The per cent of the total number of wage earners employed by corporations, however, decreased from 95.6 in 1909 to 83.6 in 1914, while the per cent for value of products decreased from 96.3 to 87.5.

Size of establishments.—Table 6 shows for the three industries combined, for 1914 and 1909, the number of establishments grouped according to the value of their products, and for each group, the average number of wage earners, value of products, and value added by manufacture. In this table, also, separate figures for each industry can not be shown without disclosing individual operations.

Establishments with products valued at \$1,000,000 or over constituted by far the most important class, as measured by value of products, in both 1914 and 1909, reporting 69.1 per cent of the total for the industries in 1914 and 56.1 per cent in 1909. The number of such establishments increased from 12 to 18 during the 5-year period, while the aggregate value of their products increased \$24,382,562, or 73.6 per cent. The other groups shown in the table, except that compris-

ing establishments with products valued at from \$5,000 to \$20,000, show a decrease in value of products.

Table 6.

VALUE OF PRODUCT.	Census year.	CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.			
		Number of establishments.	Average number of wage earners.	Value of products.	Value added by manufacture.
All classes.....	1914 1909	160 151	27,323 24,866	\$83,235,068 59,121,989	\$22,760,651 19,585,097
Less than \$5,000.....	1914 1909	9 10	13 18	21,389 28,425	6,442 12,848
\$5,000 to \$20,000.....	1914 1909	19 17	144 113	221,076 193,533	58,558 80,208
\$20,000 to \$100,000.....	1914 1909	43 45	1,208 1,373	2,460,287 2,601,938	747,510 902,443
\$100,000 to \$1,000,000.....	1914 1909	71 67	9,517 11,215	23,005,370 23,153,709	7,124,154 7,847,180
\$1,000,000 and over.....	1914 1909	18 12	16,441 12,147	57,526,946 33,144,384	14,823,987 10,742,418
Per cent distribution:					
Less than \$5,000.....	1914 1909	5.6 6.6	(1) 0.1	(1) (1)	(1) 0.1
\$5,000 to \$20,000.....	1914 1909	11.9 11.3	0.5 0.5	0.3 0.3	0.3 0.4
\$20,000 to \$100,000.....	1914 1909	26.9 29.8	4.4 5.5	3.0 4.4	3.3 4.6
\$100,000 to \$1,000,000.....	1914 1909	44.4 44.4	34.9 45.1	27.6 39.2	31.3 40.1
\$1,000,000 and over.....	1914 1909	11.2 7.9	60.2 48.8	69.1 56.1	65.1 54.8

¹ Less than one-tenth of 1 per cent.

Table 7 shows the size of establishments in each of the industries in 1914 as measured by the number of wage earners employed.

Table 7.

NUMBER OF WAGE EARNERS PER ESTABLISHMENT.	CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.							
	Total.		Cordage and twine.		Jute goods.		Linen goods.	
	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.	Establishments.	Wage earners.
All establishments.....	160	27,323	105	15,769	34	7,987	21	3,567
No wage earners.....	1	—	1	—	—	—	—	—
1 to 5 wage earners.....	20	52	14	34	4	14	2	4
6 to 20 wage earners.....	24	322	12	155	8	119	4	48
21 to 50 wage earners.....	38	1,363	28	1,038	7	245	3	80
51 to 100 wage earners.....	22	1,692	15	1,120	4	339	3	230
101 to 250 wage earners.....	33	5,423	23	3,763	5	939	5	721
251 to 500 wage earners.....	10	3,854	5	1,761	4	1,681	1	412
501 to 1,000 wage earners.....	7	5,027	4	2,958	—	—	3	2,068
Over 1,000 wage earners.....	5	9,590	3	4,940	2	4,650	—	—

Of the 160 establishments reported in 1914, 27.5 per cent employed from 1 to 20 wage earners, 37.5 per cent from 21 to 100, 26.9 per cent from 101 to 500, and 7.5 per cent over 500. Of the wage earners, 1.4 per cent were in establishments reporting from 1 to 20 wage earners each, 11.2 per cent in those employing from 21 to 100, 33.9 per cent in those employing from 101 to 500, and 53.5 per cent in the 12 establishments employing more than 500.

SPECIAL STATISTICS RELATING TO MATERIALS AND PRODUCTS.

Materials.—Table 8 shows the quantity and cost of the materials used in this group of industries as a whole in 1914, 1909, and 1899.

MATERIAL.	MATERIALS USED IN THE MANUFACTURE OF CORDAGE AND TWINE, JUTE GOODS, AND LINEN GOODS.		
	1914	1909	1899
Total cost.....	\$60,474,417	\$39,536,892	\$32,197,885
Hard fibers:			
Pounds.....	437,330,684	352,683,572	275,939,044
Cost.....	\$28,576,735	\$20,022,108	\$18,096,152
Manila hemp—			
Pounds.....	99,519,803	131,611,993	123,241,820
Cost.....	\$9,395,431	\$8,396,980	\$8,916,493
New Zealand hemp—			
Pounds.....	9,672,195	2,091,217	6,344,371
Cost.....	\$579,322	\$115,942	\$352,528
Henequen—			
Pounds.....	281,189,993		
Cost.....	\$15,736,496		
Sisal—			
Pounds.....	38,982,642	203,848,581	146,352,853
Cost.....	\$2,471,640	\$10,917,326	\$8,827,131
Other hard fibers—			
Pounds.....	7,966,051	15,131,781	(¹)
Cost.....	\$393,846	\$591,860	(¹)
Soft fibers:			
Pounds.....	338,345,841	307,035,404	248,819,187
Cost.....	\$18,273,553	\$10,838,175	\$7,712,597
Jute—			
Pounds.....	128,312,082	121,992,427	87,443,201
Cost.....	\$8,737,870	\$4,134,265	\$2,431,429
Jute butts—			
Pounds.....	114,389,155	138,364,122	118,806,625
Cost.....	\$3,535,552	\$2,033,176	\$1,795,653
Flax and flax tow—			
Pounds.....	24,717,598	26,954,785	16,980,646
Cost.....	\$3,205,975	\$3,174,609	\$2,080,862
Hemp and hemp tow—			
Pounds.....	22,752,353	19,724,070	25,588,715
Cost.....	\$1,861,817	\$1,496,125	\$1,404,653
Other soft fibers—			
Pounds.....	48,174,653	(¹)	(¹)
Cost.....	\$932,339	(¹)	(¹)
Cotton:			
Pounds.....	32,336,685	27,624,490	13,022,755
Cost.....	\$3,453,348	\$2,922,933	\$849,426
Yarns purchased:			
Cotton—			
Pounds.....	7,968,054	7,077,959	4,973,080
Cost.....	\$1,458,159	\$1,291,599	\$709,889
Flax, hemp, jute, and ramie—			
Pounds.....	6,269,660	2,676,367	1,890,792
Cost.....	\$765,444	\$445,378	\$304,161
All other materials.....	\$7,947,178	\$4,016,699	\$4,525,660

¹ Not reported.

The fibers reported for the census years 1914, 1909, and 1899, as used in the manufacture of cordage and twine, jute goods, and linen goods, are assembled in three groups—hard fibers, soft fibers, and cotton. The hard fibers include manila hemp, New Zealand hemp, henequen (sisal from Mexico and Cuba), sisal (from Africa, the Bahamas, Hawaii, and Java), istle or tam-pico fiber, Maguey, Mauritius hemp, etc.

The schedule used for reporting the statistics in 1899 did not call for "all other" hard fibers, so that the increase in the total quantity and cost of the hard fibers used is probably not so great as is indicated by the figures given in the table; the quantity of these fibers used in 1899 was not reported at all, while the cost was probably included in "all other materials." Sisal and henequen represented almost three-fourths (73.2 per cent) of the total quantity of hard fibers used in 1914, and only a little less than two-thirds (63.7 per cent) of the total cost of such fibers.

This was a material increase over the proportions of the total which sisal constituted in 1909, 57.8 per cent in quantity and 54.5 per cent in cost. Manila hemp showed a marked decrease in quantity accompanied by an increase in the cost. The use of hard fibers is confined almost entirely to the cordage and twine industry, the only exception being one establishment chiefly engaged in manufacturing jute goods, which used a small quantity of New Zealand hemp.

The soft fibers include true hemp, flax, jute, ramie, etc. These are subjected to several mechanical processes which result in producing a long, clean fiber that is used in the preparation of the better class of goods. In the course of the preparation of the fiber, short pieces are separated from the others, but are useful for manufacturing a coarser quality of goods. The short and coarser pieces are called "tow" when produced from flax and hemp, and are known as "butts" or "rejections" when produced from jute. In most cases manufacturers did not designate what specific fibers they included under "other soft fibers," the only kinds mentioned being ramie and a mixture of flax, hemp, and jute. This class of fibers was not called for on the schedules used for securing the reports in 1909 and 1899, and consequently the total quantity and cost of soft fibers used in these years may actually have been somewhat more than is shown in the accompanying table, the quantity of "all other" soft fibers not being reported at all and the cost being included in "all other materials." Jute, including jute butts, was by far the most important of the soft fibers used.

With the exception of cotton, most of the principal vegetable fibers used in the manufacture of cordage, twine, jute goods, and linen goods were imported. The following table shows for each year from 1900 to 1914, inclusive, the amount of each of these fibers imported.

YEAR ENDING JUNE 30—	IMPORTS OF VEGETABLE FIBERS AND TEXTILE GRASSES (TONS).							
	Total.	Flax.	Hemp.	Istle or tam- pico fiber.	Jute and jute butts.	Manila.	New Zealand flax.	All other.
1914.....	418,432	9,885	8,822	10,660	106,033	49,688	6,171	215,547
1913.....	407,098	12,421	7,663	9,573	125,389	73,823	7,827	153,869
1912.....	326,479	10,900	5,007	9,835	101,001	68,536	5,364	114,467
1911.....	290,434	7,792	5,278	6,874	65,238	74,308	2,679	117,727
1910.....	305,431	12,761	6,423	9,272	68,155	93,253	3,353	99,966
1909.....	345,445	9,870	5,208	9,610	156,685	61,902	(¹)	91,451
1908.....	303,484	9,528	6,213	10,174	107,533	52,467	(¹)	103,994
1907.....	312,983	8,656	8,718	14,966	104,489	54,513	(¹)	99,061
1906.....	307,283	8,729	5,317	13,914	103,945	58,738	(¹)	98,037
1905.....	304,910	8,089	3,987	15,607	98,215	61,562	(¹)	100,301
1904.....	315,659	10,123	5,871	13,622	96,735	65,666	(¹)	109,214
1903.....	272,195	8,155	4,919	14,670	79,703	61,648	(¹)	87,025
1902.....	305,727	7,772	6,054	7,819	128,963	56,453	(¹)	89,583
1901.....	238,233	6,878	4,057	2,334	103,140	43,735	(¹)	70,076
1900.....	249,306	6,967	3,400	5,748	102,693	42,624	(¹)	76,921

¹ Included in "all other."

Products.—Table 10 shows the quantity and value of the principal products of the group of industries as a whole for 1914, 1909, and 1899.

Table 10 PRODUCT.	PRODUCTS OF THE CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES.		
	1914	1909	1899
Total value.....	¹ \$83,235,068	¹ \$59,121,989	\$47,601,607
Rope:			
Pounds.....	198,400,692	239,031,893	141,841,052
Value.....	\$21,530,858	\$19,850,635	\$12,723,446
Manila—			
Pounds.....	104,909,172	125,789,435	83,347,459
Value.....	\$12,860,035	\$10,719,269	\$8,330,113
Henequen—			
Pounds.....	13,533,529		
Value.....	\$1,042,457		
Sisal—			
Pounds.....	39,898,873	64,165,218	46,865,604
Value.....	\$2,991,141	\$4,245,723	\$3,682,670
Cotton—			
Pounds.....	13,244,198	16,760,763	1,615,824
Value.....	\$2,539,906	\$3,011,613	\$247,250
Jute—			
Pounds.....		27,749,512	10,012,165
Value.....		\$1,566,160	\$463,413
All other—			
Pounds.....	26,814,920		
Value.....	\$2,097,319	4,566,965	(²)
Value.....		\$307,870	(²)
Binder twine:			
Pounds.....	302,286,862	189,172,151	165,609,429
Value.....	\$24,094,565	\$14,079,671	\$14,185,581
All or chiefly manila—			
Pounds.....	16,948,915	24,380,247	40,236,742
Value.....	\$1,637,511	\$2,173,078	\$3,862,685
All or chiefly sisal—			
Pounds.....		161,591,308	125,372,687
Value.....		\$11,714,557	\$10,322,896
All other—			
Pounds.....	285,337,947		
Value.....	\$22,457,054	3,200,596	(²)
Value.....		\$192,036	(²)
Twine, other than binder:			
Pounds.....	105,249,677	75,816,653	36,205,903
Value.....	\$13,996,522	\$8,934,352	\$4,341,441
Cotton—			
Pounds.....	17,927,286	20,412,631	8,691,707
Value.....	\$3,472,056	\$3,518,036	\$1,133,640
Jute—			
Pounds.....	55,282,159	35,516,217	1,679,127
Value.....	\$5,268,357	\$2,557,744	\$117,539
Hemp—			
Pounds.....	9,318,771	8,013,349	9,065,024
Value.....	\$1,583,354	\$1,091,291	\$1,019,590
Flax—			
Pounds.....	3,953,622	2,967,053	3,845,978
Value.....	\$1,051,684	\$830,969	\$969,469
Other, including mixed—			
Pounds.....	18,767,839	8,907,403	12,924,067
Value.....	\$2,621,071	\$936,312	\$1,101,203
Yarns for sale:			
Pounds.....	75,875,322	68,731,258	63,478,080
Value.....	\$8,320,186	\$5,434,037	\$4,455,734
Jute—			
Pounds.....	69,827,005	62,512,247	54,271,860
Value.....	\$7,357,888	\$4,361,550	\$3,230,835
Other—			
Pounds.....	6,048,317	6,219,011	9,206,220
Value.....	\$962,298	\$1,072,487	\$1,224,899
Linen thread:			
Pounds.....	5,707,668	6,530,503	4,021,044
Value.....	\$3,409,136	\$3,407,008	\$2,332,287
Linen fabrics:			
Square yards.....	10,799,628	10,460,993	6,867,862
Value.....	\$1,765,798	\$1,574,653	\$796,001
Bags and bagging:			
Square yards.....	131,827,658	69,311,288	74,090,760
Value.....	\$6,440,594	\$3,507,482	\$3,462,479
Jute carpets and rugs:			
Square yards.....	4,862,302	2,206,114	2,953,658
Value.....	\$1,172,257	\$549,221	\$357,568
All other products, value.....	\$2,505,152	\$1,784,930	\$4,947,070

¹ In addition, cordage and twine and jute and linen goods to the value of \$5,480,558 in 1914 and \$4,472,546 in 1909 were reported by establishments engaged primarily in other industries. Of these amounts \$3,683,348 in 1914 and \$3,581,917 in 1909 represent the value of the twine and cordage and rope made by cotton mills engaged chiefly in the manufacture of yarn.

² Not reported.

The total production of rope in 1914 (exclusive of the production in penal institutions) was approximately 210,200,000 pounds; in addition to the amount shown in the above table, all of which was made by establishments classed in the cordage and twine industry, 5,515,658 pounds of cotton cordage and rope were made by establishments engaged primarily in the production of other cotton manufactures, while 6,283,339 pounds of manila, sisal, cotton, and other kinds of rope were produced by establishments in other industries, namely, shipbuilding, wire, saddlery and harness, house-furnishing goods, and cork cutting. The figures in the above table presumably represent the entire production of binder twine in the United States (with the exception of an unknown amount made in penal institutions), but of twines, other than binder twine, the total production was approximately 120,301,000 pounds, of which 13,284,875 pounds was cotton twine reported by establishments classed in cotton manufactures and engaged primarily in producing other kinds of cotton goods, and 1,766,440 pounds was a subsidiary product of establishments in other industries. The total production of cotton twine, cordage, and rope in all industries is shown, by states, in Table 11.

Table 11 PRODUCT AND STATE.	TOTAL PRODUCTION OF COTTON TWINE, CORDAGE, AND ROPE IN ALL INDUSTRIES.			
	Quantity (pounds).		Value.	
	1914	1909	1914	1909
Cotton twine.....	31,228,601	34,128,402	\$6,268,291	\$5,935,427
Alabama.....	1,245,323	3,867,888	269,519	586,351
Connecticut.....	2,272,784	2,360,172	530,641	478,855
Georgia.....	5,248,751	5,161,778	1,130,918	918,824
Kentucky.....	1,278,315	2,100,857	212,979	356,181
Massachusetts.....	1,616,629	2,426,686	360,506	378,729
North Carolina.....	3,280,892	3,590,437	658,501	586,162
South Carolina.....	3,470,690	2,635,798	603,921	440,595
All other states.....	12,815,217	11,984,786	2,501,306	2,189,730
Cotton cordage and rope.....	18,812,856	24,364,670	3,442,057	4,176,139
Alabama.....	3,221,119	2,897,768	453,127	437,749
Georgia.....	1,601,895	2,091,581	330,872	319,312
Massachusetts.....	4,672,788	7,872,695	1,131,893	1,535,936
North Carolina.....	826,998	1,919,290	150,163	344,111
Pennsylvania.....	2,485,554	4,078,343	317,801	566,492
South Carolina.....	935,961	(¹)	138,235	(¹)
All other states.....	5,068,541	5,504,993	919,966	972,539

¹ Can not be shown without disclosure of individual operations.

The large increase in the production of jute carpets and rugs for 1914 as compared with 1909 was due to the inclusion in the jute-goods industry for the later year of eight plants chiefly engaged in manufacturing these goods in 1914, but classed with the "carpet and rug" industry at the earlier census. The value of the products of these concerns was \$736,769 in the earlier and \$823,798 in the later year. Without the addition of the products of these mills the production of jute carpets and rugs would have shown a decrease during the five-year period.

Table 12 shows, for 1914, the domestic manufactures and the imports for consumption of cordage and twine, jute goods, and linen goods.

The imports of cordage and twine amounted to only a small per cent of the domestic production. Yarns of jute and carpets and rugs of flax, hemp, jute, or other vegetable fiber were imported to a certain extent, while imports of bags and bagging made chiefly or entirely of jute were valued at almost as much as the domestic production. The import figures for bags and bagging are reported in pounds, and consequently no comparison of the quantity of the imports and domestic manufactures of these articles can be made. The domestic production of burlaps was not reported separately, and is included in "all other products;" it is obvious, however, that by far the larger part of the burlaps used in this country were imported. The total value (including the duty paid) of the five classes of imports composed wholly or chiefly of jute goods was \$43,224,939.

The linen fabrics shown in Table 10 include towels, toweling, and other woven goods made entirely or chiefly of linen. Separate statistics for these groups can not be given without disclosing the operations of individual establishments, though it may be stated that more than two-thirds were "all-linen" towels and toweling. These products show a decided increase between 1899 and 1914, though about the same production was reported in 1914 as in 1909.

Although establishments engaged in the manufacture of linen goods show a decided increase during the period covered by this report they make only a small part of the linen goods used in this country, most of such goods being imported. The only available statistics, as presented in Table 12, fail to show the total importation of linen goods, most of the groups of imports including the manufactures of flax with those of hemp and ramie. Linens, however,

represent by far the largest portion of each of these groups, and for comparative purposes the goods made from hemp and ramie need not be taken into account. The total value (including the duty paid) of the linen fabrics, yarns, and twines imported during the year ending December 31, 1914, as shown in Table 12, was \$32,738,000. In addition there were imported handkerchiefs to the value of \$4,032,244; laces, embroideries, etc., to the value of \$4,461,990; and wearing apparel valued at \$225,100.

Table 12

	Domestic manufactures, 1914.	Imports for consumption, year ending Dec. 31, 1914. ¹
Total value.....	\$83,235,068	\$76,818,602
Rope:		
Pounds.....	198,400,692	672,193
Value.....	\$21,530,858	\$71,766
Binder twine:		
Pounds.....	302,286,862	
Value.....	\$24,094,565	² 7,615,239
Twines, other than binder:		
Cotton, jute, hemp, and other—		² \$701,188
Pounds.....	101,296,055	
Value.....	\$12,944,838	
Flax—		
Pounds.....	3,953,622	
Value.....	\$1,051,684	³ 812,933
Linen thread:		
Pounds.....	5,707,668	³ \$571,967
Value.....	\$3,409,136	
Yarns:		
Jute—		
Pounds.....	69,827,005	1,481,648
Value.....	\$7,357,888	\$170,648
Other—		
Pounds.....	6,048,317	³ 3,127,480
Value.....	\$962,293	³ \$939,266
Carpets and rugs:		
Square yards.....	4,862,302	583,168
Value.....	\$1,172,257	\$222,585
Bags and bagging, value.....	6,440,594	5,795,247
Linen fabrics,		
Fabrics of flax, hemp, and ramie, commercially known as "linens"—		
Pile fabrics, value.....		170,118
Plain woven fabrics, value.....		15,525,469
Waterproof cloth, value.....		23,146
Bands, bindings, braids, tapes, etc., value.....	1,765,798	³ 51,134
All other woven articles of flax, value.....		15,456,900
All other products:		
Jute burlaps.....		36,088,144
All other woven articles of jute.....		948,018
All other woven articles of hemp and ramie.....	2,505,152	82,709

¹ Compiled from the quarterly statements of imported merchandise entered for consumption as prepared by the Bureau of Foreign and Domestic Commerce. These figures include with the "declared value" the amount of duty paid.

² Designated as "binding twine."

³ Of "flax, hemp, and ramie," though chiefly of the former.

DETAIL STATE TABLE.

The principal statistics secured by the census inquiry concerning the group as a whole for the United States, and each industry comprising it by states, are presented in detail for 1914 in Table 13.

TABLE 13.—DETAIL STATISTICS FOR THE CORDAGE AND TWINE, JUTE-GOODS, AND LINEN-GOODS INDUSTRIES BY STATES: 1914.

INDUSTRY AND STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.						EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.		
					Male.	Female.	Average number.	Number, 15th day of—			Male.	Female.	Male.	Female.		Officials.	Clerks etc.	
								Maximum month.	Minimum month.									
United States.....	160	28,909	57	489	747	293	27,323	Ap 28,716	Au 24,927	26,612	13,823	11,685	431	673	\$98,561,044	\$1,427,383	\$1,017,8	
Cordage and twine.....	105	16,849	38	335	492	215	15,769	Ap 16,629	Au 13,445	15,752	9,173	5,932	227	420	72,472,169	924,500	704,7	
Alabama.....	5	479	.....	10	5	4	460	De 526	My 408	517	289	164	24	40	915,868	18,100	7,4	
Connecticut.....	10	351	4	21	4	6	316	Ap 322	No 307	310	138	159	4	9	501,329	29,679	5,9	
Kentucky.....	5	529	.....	15	5	3	506	Ap 552	Se 434	525	248	270	3	4	1,024,596	30,179	8,8	
New Jersey.....	6	801	1	15	24	1	760	My 814	De 676	669	424	240	4	1	3,127,210	46,141	23,1	
New York.....	12	4,122	10	75	167	66	3,804	Mh 3,968	No 3,538	3,589	1,800	1,771	5	13	12,822,411	176,776	209,8	
Pennsylvania.....	17	1,947	8	40	41	9	1,849	Fe 1,969	De 1,749	1,850	963	792	48	47	5,985,583	153,034	61,3	
Rhode Island.....	5	148	5	5	1	3	134	Oc 142	No 122	140	86	47	.....	7	226,373	6,600	1,7	
All other states ¹	45	8,472	10	154	245	123	7,940	.....	.....	8,152	5,225	2,489	139	299	47,868,799	463,991	386,5	
Jute goods.....	34	8,307	17	98	158	47	7,987	Ap 8,383	De 7,061	7,278	3,332	3,697	134	115	17,279,006	314,001	201,3	
Georgia.....	4	95	3	6	3	1	82	Ap 96	No 50	96	51	38	1	6	165,839	8,488	2,4	
North Carolina.....	4	368	.....	13	1	4	350	My 406	De 269	270	201	66	3	.....	555,493	30,340	3,2	
Pennsylvania.....	11	880	10	19	17	5	829	Fe 864	De 761	771	383	348	20	20	1,741,086	61,599	13,6	
All other states ²	15	6,964	4	60	137	37	6,726	.....	.....	6,141	2,697	3,245	110	89	14,816,588	213,574	182,0	
Linen goods.....	21	3,753	2	56	97	31	3,567	Mh 3,719	Jy 3,375	3,582	1,318	2,056	70	138	8,809,869	188,882	111,7	
Massachusetts.....	7	1,628	.....	23	43	21	1,541	Oc 1,580	Jy 1,499	1,534	597	805	48	84	3,938,715	83,755	67,2	
All other states ³	14	2,125	2	33	54	10	2,026	.....	.....	2,048	721	1,251	22	54	4,871,154	105,127	44,5	

INDUSTRY AND STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					Electric power generated in establishments reporting.
	Salaries and wages—Continued.	For contract work.	For rent and taxes.		For materials.				Primary horsepower.					
			Rent of factory.	Taxes, including internal revenue and corporation income.	Principal materials.	Fuel and rant of power.			Total.	Steam engines. ⁴	In-ternal-com-bus-tion engines. ⁵	Water wheels and motors. ⁴	Elec-tric (rent-ed).	
United States.....	\$11,441,723	\$21,810	\$87,767	\$613,973	\$59,537,243	\$937,174	\$83,235,068	\$22,760,651	93,937	65,867	3,044	14,377	10,649	23,4
Cordage and twine.....	6,995,596	1,455	51,479	405,539	42,971,741	633,732	59,761,486	16,156,013	55,377	41,038	2,949	3,107	8,283	10,1
Alabama.....	154,413	.....	1,000	11,062	805,509	23,500	1,135,051	306,042	1,935	1,525	.....	150	260	.....
Connecticut.....	102,775	.....	126	3,545	501,764	4,151	666,096	160,181	1,255	125	.....	1,094	36	.....
Kentucky.....	159,343	.....	2,070	6,852	594,297	16,665	883,293	272,331	1,625	1,160	.....	250	215	.....
New Jersey.....	315,312	.....	.....	18,270	2,250,050	31,358	2,863,318	581,910	3,366	3,360	4	.....	2	1,1
New York.....	1,706,146	.....	34,854	81,084	8,086,043	160,586	11,970,893	3,724,264	11,935	9,495	95	335	2,010	5,6
Pennsylvania.....	727,182	.....	8,467	17,545	3,822,985	43,930	4,984,662	1,117,747	5,110	4,821	165	100	24	9
Rhode Island.....	52,165	.....	2,400	1,086	175,069	3,964	278,613	99,580	398	153	30	182	33	.....
All other states ¹	3,778,260	1,455	2,562	266,095	26,736,024	349,578	36,979,560	9,893,958	29,753	20,399	2,655	996	5,703	2,2
Jute goods.....	3,060,010	19,781	27,590	137,211	12,413,857	165,983	16,513,874	3,934,034	28,628	16,950	95	10,050	1,533	10,9
Georgia.....	17,418	190	1,680	2,097	166,237	873	188,386	21,276	180	.....	.....	.....	180	.....
North Carolina.....	97,091	7,491	1,020	3,276	641,929	11,894	669,047	15,224	596	30	.....	.....	566	.....
Pennsylvania.....	344,099	12,100	7,420	5,611	1,171,626	18,622	1,791,545	601,297	1,918	1,722	65	.....	131	.....
All other states ²	2,601,402	.....	17,470	126,227	10,434,065	134,594	13,864,896	3,296,237	25,934	15,198	30	10,050	656	10,8
Linen goods.....	1,386,117	574	8,698	71,223	4,151,645	137,459	6,959,708	2,670,604	9,932	7,879	.....	1,220	833	2,4
Massachusetts.....	652,369	541	4,008	40,361	1,733,227	61,896	3,050,254	1,255,131	4,605	3,560	.....	860	185	8
All other states ³	733,748	33	4,690	30,862	2,418,418	75,563	3,909,434	1,415,473	5,327	4,319	.....	360	648	1,5

¹ All other states embrace: California, 2 establishments; Georgia, 2; Illinois, 3; Indiana, 1; Louisiana, 1; Maine, 1; Massachusetts, 12; Minnesota, 1; Mississippi, 1; Missouri, 2; New Hampshire, 1; North Carolina, 2; Ohio, 5; Oklahoma, 1; Oregon, 1; South Carolina, 2; Tennessee, 2; Virginia, 1; Washington, 1; and Wisconsin, 3.

² All other states embrace: California, 1 establishment; Delaware, 1; Maryland, 1; Massachusetts, 1; Missouri, 2; New Jersey, 3; New York, 3; Ohio, 1; and South Carolina, 2.

³ All other states embrace: Connecticut, 1 establishment; Michigan, 1; Minnesota, 2; New Hampshire, 2; New Jersey, 4; New York, 2; Pennsylvania, 1; and Wisconsin, 1.

⁴ Owned power only.

⁵ Includes rented power, other than electric.

FLAX AND HEMP, DRESSED.

The establishments included in this classification are such as buy the rough hemp and flax, ret it, and dress the fiber by mechanical processes into line and tow. It does not include these operations when carried on, as is often the case, in establishments which use the fibers in further manufacture. In 1859 the industry was shown under two headings as "flax dressing" and

"hemp dressing." From 1869 to 1899 it was called "flax, dressed," but presumably covered hemp also; while in 1904, 1909, and 1914 it was designated as "flax and hemp, dressed." The following table presents the statistics for the industry for 1914, 1909, 1904, and 1899.

Table 1

	FLAX AND HEMP, DRESSED.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	16	16	17	4	.....	-5.9	325.0
Persons engaged.....	158	216	246	231	-26.9	-12.2	6.5
Proprietors and firm members.....	19	22	17	8	-13.6	29.4	112.5
Salaried employees.....	23	30	15	12	-23.3	100.0	25.0
Wage earners (average number).....	116	164	214	211	-29.3	-23.4	1.4
Primary horsepower.....	832	1,147	600	187	-27.5	91.2	220.9
Capital.....	\$234,619	\$784,771	\$238,842	\$71,496	-63.7	228.6	234.1
Salaries and wages.....	60,601	92,707	69,363	52,589	-34.6	33.7	31.9
Salaries.....	15,330	28,700	9,386	6,589	-46.6	205.8	42.4
Wages.....	45,271	64,007	59,977	46,000	-29.3	6.7	30.4
Cost for contract work.....	.....	.....	1,100	.....	.....	.....	.....
Rent and taxes (including internal revenue).....	3,280	5,636	24,607	2,685	-41.8	22.3	572.6
Cost of materials.....	185,247	336,300	233,132	91,032	-44.9	44.3	156.1
Value of products.....	282,648	467,346	346,963	158,650	-39.5	34.7	118.7
Value added by manufacture (value of products less cost of materials).....	97,401	131,046	113,831	67,618	-25.7	15.1	68.3

¹ A minus sign (-) denotes decrease.

² Not including internal revenue.

At the census of 1849, under "flax breakers," four establishments were reported with 63 wage earners, receiving \$15,084 in wages. The cost of materials was \$25,500 and the value of products \$50,000. At the same census four establishments were reported under "flax dressers and spinners," with 262 wage earners, \$61,728 paid in wages, and \$186,000 expended for materials. The value of products was \$301,808.

While formerly large quantities of flax grown in the United States were used in the manufacture of twine and cloth, the production of flax for textile purposes in this country has greatly decreased, almost all of the flax crop being now raised for the seed, from which linseed oil is made. The production of hemp in this country has also decreased.

Although the number of establishments for this industry remained about the same for the decade 1904-1914, the value of products shows considerable variation, due largely to the fact that more than one-third of the value of the products in 1909 represented hemp baled and sold in the rough state, whereas comparatively little of this material was reported in either 1904 or 1914. The dressing of hemp is confined almost entirely to the state of Kentucky, while the flax straw is treated in the establishments of the Dakotas, Minnesota, Michigan, and Iowa. The dressed flax and hemp fibers are used chiefly in the manufacture of cordage and twine, though much of the tow produced is used in upholstering and in lining of railroad refrigerator cars.

FUR-FELT HATS.

GENERAL STATISTICS.

Scope of the industry.—The establishments assigned to this industry manufacture stiff and soft hats, for men's and women's wear, from hatters' fur. This fur is chiefly that of the rabbit, hare, and coney, though in Austria, the fur of the coypu (a South American aquatic rodent), and the fur of the muskrat, otter, etc., are used to a certain extent. The skins of these animals, after being cleaned, are "carotted" (treated with a solution of mercury) in order to facilitate the process of felting. The fur is then cut from the skins and graded according to quality. In some cases this work is performed by hat factories, but most of the fur is purchased by hat manufacturers either from establish-

ments engaged solely in cutting hatter's fur or from importers of cut fur.

The manufacture of felt hats is divided into what is known as the front shop and the back shop. The work in the back shop begins with the raw fur, and continues through the making of the bodies and shaping them ready to be finished, hats in this condition being called hats in the rough. The front shop comprises the finishing process. The first step in the making of hats is to weigh out a mixture of different kinds of long and short furs sufficient to make 26 dozen bodies, which, allowing one hat to the dozen as a second or knock-down, are expected to produce 24 dozen good hats.

After a preliminary mixing, the fur is run through a mixing machine called the devil, in which a large cylinder covered with very sharp pins tears the fur into a light loose mass. Next it is run through a blower, which thoroughly separates the dirt and other foreign matter from the good fur. Sufficient clean fur to make one hat of the desired size and weight is next fed into a forming machine, which consists of a perforated copper cone about 24 inches high and 26 inches in diameter at the base, resting on a revolving pedestal and inclosed in a cylindrical chamber. An exhaust fan underneath draws the fur down about the cone and holds it there by forced suction. When the fur is all settled over the cone it is wrapped with a wet piece of burlap to hold it in place and still resting on the cone is removed from the machine and immersed in hot water until wet through. The wetting mats the fur so that it will hold together. The hat body, as it is now known, is then slipped off the cone; three of them are then folded up small and rolled a little to cause the fur to knit. After every three rolls each of the bodies has to be opened up, so that they will not stick together and become one mat and also to avoid causing a streak where they are folded. This process is called hardening and shrinks the body so that it will hold together until it goes to the sizer. The sizer works in just the same manner as the hardener until the hat body has shrunk to the proper size, after which it is shaved to remove the loose, long hairs. The bodies are then stiffened by being immersed in a solution of shellac dissolved in alcohol until saturated and then stacked up and allowed to sweat, which makes the shellac in the whole stack of hats uniform. The alcohol evaporates, leaving the shellac distributed throughout the body, that left on the outside of the body being removed by dipping it into a solution of borax water and then washing it. After stiffening, the hat bodies are placed in a blocking machine, which stretches the crowns and brims from a conical shape into one that looks very much like that of a finished hat. After being colored the hat body is blocked again, being left with a regular crown and a full brim. In this stage it is called a hat in the rough. The above description applies equally to the manufacture of soft and stiff hats, the chief difference being that in the soft hats less shellac and more and better fur is used.

The hat in the rough now goes to the front shop, where it is heated with steam and shaped to a wooden block which is the same shape the hat will have when it is completed. After drying, the hat is heated in a retort or oven, after which it is placed in a mold of the same shape and pressed out smooth. After cooling, sandpaper is used to draw out the long hairs and leave an even, smooth nap. The hat brim is next rounded (has the edges cut to the proper proportions), curled, and shaped into the proper form. In flexible derbies wires are then put into the curl at the edge of the brim to hold the shape. The binding, band, bow, and leather are then sewed on, and the hat is finished.

Most of the largest concerns in the country make the hat from start to finish, but by far the larger number of shops are engaged in performing only part of the processes of felt-hat manufacture. Some make nothing but hat bodies or hats in the rough, some do work under contract on materials furnished by other manufacturers, and others purchase hat bodies or hats in the rough and carry the process of manufacture on to the finished hats. The first stages of hat manufacture are carried on under typical factory conditions, but the work of finishing is often done on a very small scale as an adjunct to a retail hat store. In view of the essential difference in the character of the operations which prevails even in cases where the finishing is done on a large scale, the data for the establishments engaged solely in finishing are shown in the following table separately from those making hat bodies from hatters' fur whether or not the finishing is done in the same establishments:

Table 1

THE FUR- FELT HAT INDUSTRY.

	Totals for the industry.	Establishments engaged primarily in—		Per cent distribution.	
		Making hat bodies.	Finishing hats.	Makers of hat bodies.	Finishers.
Number of establishments.....	224	86	138	38.4	61.6
Persons engaged.....	22,932	20,012	2,920	87.3	12.7
Proprietors and firm members.....	163	41	122	25.2	74.8
Salaries and wages.....	1,451	1,132	319	78.0	22.0
Wage earners (average number).....	21,318	18,839	2,479	88.4	11.6
Primary horsepower.....	20,851	19,837	1,014	95.1	4.9
Capital.....	\$39,401,429	\$34,217,567	\$5,183,862	86.8	13.2
Salaries and Wages.....	14,000,263	12,222,924	1,777,339	87.3	12.7
Salaries.....	1,929,451	1,610,739	318,712	83.5	16.5
Wages.....	12,070,812	10,612,185	1,458,627	87.9	12.1
Paid for contract work.....	19,825	16,141	3,684	81.4	18.6
Rent and taxes (including internal revenue).....	324,626	202,079	122,547	62.2	37.8
Cost of materials.....	16,947,058	13,256,141	3,690,917	78.2	21.8
Value of products.....	37,349,744	30,806,848	6,542,896	82.5	17.5
Value added by manufacture (value of products less cost of materials).....	20,402,686	17,550,707	2,851,979	86.0	14.0

Comparison with earlier censuses.—Table 2 summarizes the statistics of the industry as a whole for each census from 1899 to 1914, inclusive, together with the percentages of increase (or decrease) from census to census.

Of the establishments reporting in 1909, 110 discontinued operations prior to 1914 or were consolidated with other establishments in the industry, and 11 others, although continuing in business, ceased to manufacture fur-felt hats. On the other hand, 72 concerns commenced operations between 1909 and 1914, so that the net diminution in the number of establishments was 49.

While the manufacture of fur-felt hats by machinery has been carried on in the United States for about 70 years, it was not until the census of 1899 that separate statistics for the industry were published. Before that the statistics were included with those for the industry "hats and caps, not including wool hats." The industry grew with a considerable degree of uniformity during the decade 1899 to 1909, the

percentage of gain in the number of establishments and value of products being about the same for each of the five-year periods. In 1914, however, the

industry showed a marked decline over 1909, the value of products being little more than that reported in 1904.

Table 2

	THE FUR-FELT HAT INDUSTRY.				PER CENT OF INCREASE. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	224	273	216	171	-17.9	26.4	26.3
Persons engaged.....	22,932	27,091	23,666	19,814	-15.4	14.5	19.4
Proprietors and firm members.....	163	264	252	208	-38.3	4.8	21.2
Salaried employees.....	1,451	1,763	1,367	726	-17.7	29.0	88.3
Wage earners (average number).....	21,318	25,064	22,047	18,880	-14.9	13.7	16.8
Primary horsepower.....	20,851	19,245	16,630	11,843	8.3	15.7	40.4
Capital.....	\$39,401,429	\$35,733,594	\$23,258,104	\$16,701,308	10.3	53.6	39.3
Salaries and wages.....	14,000,263	16,319,881	12,770,473	10,063,262	-14.2	27.8	26.9
Salaries.....	1,929,451	2,096,689	1,488,236	943,998	-8.0	40.9	57.7
Wages.....	12,070,812	14,223,192	11,282,237	9,119,264	-15.1	26.1	23.7
Paid for contract work.....	19,825	326,697	159,793	97,943	-93.9	104.5	63.1
Rent and taxes (including internal revenue).....	324,626	286,573	212,905	146,783	13.3	.....	.....
Cost of materials.....	16,947,058	22,109,231	15,975,206	13,513,668	-23.3	38.4	18.2
Value of products.....	37,349,744	47,864,630	36,629,353	27,811,187	-22.0	30.7	31.7
Value added by manufacture (value of products less cost of materials).....	20,402,686	25,755,399	20,654,147	14,297,519	-20.8	24.7	44.5

¹ A minus sign (-) denotes decrease.

² Exclusive of internal revenue.

The census year of 1914 covered a period of business depression among felt-hat manufacturers. This industry is one of the first to feel the pinch of a financial stringency, due to the fact that when a man finds he must economize, the cost of his headgear is often one of the first items to be reduced. Thus the general business depression of 1914 was reflected in the manufacture of fur-felt hats.

Aside from the general depression which the manufacturers of fur-felt hats shared in common with many manufacturers in other industries in 1914, there were two additional causes of lessened production which related only to this industry. One cause of this change was the substitution of the cheaper cloth caps, popularized in connection with the automobile, for men's fur-felt hats, and of velvet, satin, and other cloth hats for women's fur-felt hats. The value of

the production of "hats and caps, other than straw, felt, and wool," increased from \$13,689,338 in 1909 to \$18,593,221 in 1914, or by 35.8 per cent; and this rather large increase took place at a time when many of the industries showed decreases or only insignificant increases in 1914 as compared with 1909. Furthermore, the styles of fur-felt hats prevailing in 1914 also resulted in lessened production. The demand at that time was for soft instead of stiff hats, with a resulting reduction in the number required; for, when the style runs largely to stiff hats, the consumer buys a new one more frequently than when soft hats are in fashion.

Summary, by states.—Table 3 summarizes the more important statistics by states, the states being arranged according to the value of products reported for 1914.

Table 3

Table 3	THE FUR-FELT HAT INDUSTRY.																
	Census of 1914.							Per cent of increase. ¹									
	STATE.	Number of establishments.	Wage earners.		Value of products.		Value added by manufacture.		Wage earners (average number).			Value of products.			Value added by manufacture.		
			Average number.	Per cent distribution.	Amount.	Per cent distribution.	Amount.	Per cent distribution.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
United States.....	224	21,318	100.0	\$37,349,744	100.0	\$20,402,686	100.0	-14.9	13.7	16.8	-22.0	30.7	31.7	-20.8	24.7	44.5	
Pennsylvania.....	27	6,714	31.5	11,040,820	29.6	7,152,290	35.1	-7.0	56.3	59.8	-15.2	77.2	73.2	-10.7	73.3	94.5	
Connecticut.....	58	5,461	25.6	9,475,778	25.4	4,842,504	23.7	4.7	1.1	6.0	-8.9	20.0	14.8	-12.8	17.9	22.0	
New Jersey.....	41	4,401	20.6	7,969,344	21.3	4,261,302	20.9	-5.5	-18.4	20.2	-9.7	7.5	32.3	-9.6	-11.3	48.7	
New York.....	39	3,563	16.7	6,637,380	17.8	3,146,652	15.4	-28.9	14.0	6.4	-35.0	32.0	38.2	-34.6	12.9	42.3	
Massachusetts.....	10	629	3.0	864,722	2.3	394,404	1.9	-71.7	40.2	-13.0	-76.9	61.7	-12.0	-78.2	52.3	-4.0	
All other States.....	49	550	2.6	1,361,700	3.6	605,534	3.0	.....	.....	.....	.....	.....	.....	.....	.....	.....	

¹ Percentages are based on figures in Table 16. A minus sign (-) denotes decrease.

The fur-felt hat industry in the United States is confined principally to a few Eastern states, the five states of Pennsylvania, Connecticut, New York, New Jersey, and Massachusetts reporting, in 1914, 78.1 per cent of the establishments, and 96.4 per cent of the total value of products reported for the industry.

Not only is the largest portion of the manufacture of fur-felt hats confined to a comparatively few states, but also to a few cities within those states. The following table shows the value of products for each of the five leading cities, their combined total amounting to 73.1 per cent of the total value of products for the entire industry in 1914, and 59.8 per cent in 1909.

CITY.	NUMBER OF ESTABLISHMENTS.		VALUE OF PRODUCTS.	
	1914	1909	1914	1909
Philadelphia, Pa.	17	27	\$9,914,443	\$10,401,794
Danbury, Conn.	39	51	7,065,765	7,114,683
New York, N. Y.	31	33	3,601,944	4,765,029
Newark, N. J.	26	35	3,900,954	4,433,132
Orange, N. J.	6	11	2,822,860	1,904,860

Persons engaged in the industry.—Table 5 shows, for 1909 and 1914, the number of persons engaged in the industry, distributed according to occupational

status and sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

The total average number of wage earners showed a decrease in 1914 as compared with 1909 of 3,746 or 14.9 per cent. Among female wage earners the relative decrease was more pronounced than among males, while less than half as many children were employed in 1914 as in 1909.

Table 5

CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.					
		Total.	Male.	Fe- male.	Per cent of total.		
					Male.	Fe- male.	
All classes.....	1914	22,932	16,909	6,023	73.7	26.3	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.
	1909	27,091	19,572	7,519	72.2	27.8	
Proprietors and officials.....	1914	596	569	27	95.5	4.5	
	1909	777	735	42	94.6	5.4	
Proprietors and firm members..	1914	163	159	4	97.5	2.5	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.
	1909	264	258	6	97.7	2.3	
Salaried officers of corporations..	1914	161	157	4	97.5	2.5	
	1909	137	136	1	99.3	0.7	
Superintendents and managers..	1914	272	253	19	93.0	7.0	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.
	1909	376	341	35	90.7	9.3	

CLASS.	Cen- sus year.	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.					
		Total.	Male.	Fe- male.	Per cent of total.		
					Male.	Fe- male.	
Clerks and other subordinate sala- ried employees.....	1914	1,018	801	217	78.7	21.3	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.
	1909	1,250	1,022	228	81.8	18.2	
Wage earners (average number)....	1914	21,318	15,539	5,779	72.9	27.1	
	1909	25,064	17,815	7,249	71.1	28.9	
16 years of age and over.....	1914	21,069	15,381	5,688	73.0	27.0	PERSONS ENGAGED IN THE FUR-FELT HAT INDUSTRY.
	1909	24,533	17,526	7,007	71.4	28.6	
Under 16 years of age.....	1914	249	158	91	63.5	36.5	
	1909	531	289	242	54.4	45.6	

The average number of wage earners for each state, as reported at the censuses of 1914, 1909, and 1904, is given in Table 15. The distribution of the average number by sex and age is not shown for the individual states, but Table 16 gives such a distribution for 1914 for the number employed on December 15, or the nearest representative day.

Wage earners employed, by months.—Table 6 gives the number of wage earners employed in the industry on the 15th (or nearest representative day) of each month during the year 1914 for the states having three or more establishments.

The industry exhibited a certain amount of variation in employment, the minimum number reported, 19,791, for May, being 88.2 per cent of the maximum. May was the month of minimum employment in four of the states shown in the table, Connecticut, New Jersey, New York, and Massachusetts; but no important state reported the same month of maximum employment. The greatest variation in employment was in Massachusetts, the smallest number employed during any one month in that state being only 18.3 per cent of the largest.

Table 6	WAGE EARNERS IN THE FUR-FELT HAT INDUSTRY: 1914. [Month of maximum employment for each state is indicated by boldface figures and that of minimum by <i>italic</i> .]														
	STATE.	Average number employed during year.	Number employed on 15th day of the month or nearest representative day.												Per cent minimum is of maximum.
			January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	
United States.....	21,318	21,519	21,783	21,581	20,518	<i>19,791</i>	20,134	22,030	22,269	22,356	22,438	20,844	20,553	88.2	
California.....	58	62	63	62	61	54	<i>49</i>	50	55	60	64	66	50	74.2	
Connecticut.....	5,461	5,565	5,868	5,802	5,199	<i>4,887</i>	5,068	5,571	5,766	5,778	5,673	5,275	5,080	83.3	
Illinois.....	43	44	46	48	49	47	41	41	42	42	41	39	<i>36</i>	73.5	
Massachusetts.....	629	231	230	236	216	<i>195</i>	213	1,005	1,068	1,063	1,059	1,012	1,020	18.2	
Missouri.....	114	109	<i>107</i>	115	113	113	109	119	118	118	118	114	115	89.9	
New Jersey.....	4,401	4,421	4,419	4,385	4,276	<i>4,274</i>	4,315	4,445	4,485	4,566	4,557	4,365	4,304	93.6	
New York.....	3,563	3,638	3,638	3,581	3,398	<i>3,142</i>	3,253	3,704	3,818	3,907	4,088	3,275	3,314	76.9	
Ohio.....	27	<i>22</i>	23	29	29	29	28	28	28	26	27	27	<i>28</i>	75.9	
Pennsylvania.....	6,714	7,109	7,060	6,991	6,859	6,746	6,766	6,767	6,588	6,489	6,507	6,371	<i>6,316</i>	88.8	
All other states.....	308	318	329	332	318	304	292	300	301	307	304	300	291	87.6	

Prevailing hours of labor.—Table 7 presents for the industry as a whole classified according to the number of hours of labor per week prevailing in the

establishments in which they were employed. The number employed in each establishment is classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 7

STATE.	Cen- sus year.	AVERAGE NUMBER OF WAGE EARNERS IN THE FUR-FELT HAT INDUSTRY.					
		Total.	In establishments where the prevailing hours of labor per week were—				
			48 and under.	Be- tween 48 and 54.	54.	Be- tween 54 and 60.	60.
United States.....	1914 1909	21,318 25,064	3,511 2,182	12,377 7,985	3,615 5,163	1,560 8,957	255 1,777
California.....	1914 1909	58 21	58 21	.....	.....	.....	.....
Connecticut.....	1914 1909	5,461 5,217	1,467 588	2,889 3,016	354 22	515 1,468	236 123
Illinois.....	1914 1909	43 99	4 60	16 34	9 5	12	2
Massachusetts.....	1914 1909	629 2,224	145 83	9	475 20	 2,121	..... .....
Missouri.....	1914 1909	114 32	101 5	.....	13 27	.....	.....
New Jersey.....	1914 1909	4,401 4,657	700 619	3,075 3,295	245 108	374 366	7 269
New York.....	1914 1909	3,563 5,013	677 672	650 1,060	1,951 36	284 3,236	1 9
Ohio.....	1914 1909	27 9	9 7	3	8 .....	.....	7 2
Pennsylvania.....	1914 1909	6,714 7,220	265 65	5,722 370	545 4,919	182 1,533	 333
All other states.....	1914 1909	308 572	85 62	13 210	15 26	193 233	41 2

¹ Includes 4 wage earners working between 60 and 72 hours per week.

A comparison of the hours of labor prevailing in 1909 and 1914 shows that there was a very pronounced reduction in the working time during the five-year period. In 1909 only two-fifths (40.6 per cent) of the wage earners were employed in establishments where

the prevailing hours were less than 54 per week, whereas in 1914 almost three-fourths (74.5 per cent) of the employees were in establishments where the working time was less than 54 hours per week. There was considerable diversity among the several states in the prevailing time of employment. The largest number in 1914 in Connecticut, New Jersey, and Pennsylvania were employed in factories where the prevailing hours of labor were between 48 and 54, while in Massachusetts and New York the most common working time was 54 hours per week.

Character of ownership.—Table 8 presents for 1914, 1909, and 1904 data in respect to the character of ownership, or legal organization, of the establishments in the industry.

Table 8

CHARACTER OF OWNER- SHIP.	FUR-FELT HAT INDUSTRY.					
	Number of establishments.			Value of products.		
	1914	1909	1904	1914	1909	1904
Total.....	224	273	216	\$37,349,744	\$47,864,630	\$36,629,353
Individuals.....	94	108	92	3,509,142	5,679,082	4,418,694
Corporations.....	103	104	56	30,368,386	31,607,227	20,182,580
All others.....	27	61	68	3,472,216	10,578,321	12,028,079
Per cent of total....	100.0	100.0	100.0	100.0	100.0	100.0
Individuals.....	42.0	39.6	42.6	9.4	11.9	12.1
Corporations.....	46.0	38.1	25.9	81.3	66.0	55.1
All others.....	12.0	22.3	31.5	9.3	22.1	32.8

This table shows a marked increase in the importance of establishments under corporate ownership, with a corresponding decrease in the importance of those owned by individuals and firms.

Table 9 gives statistics for the establishments in the industry classified according to form of ownership, by states.

Table 9

STATE.	Cen- sus year.	Number of establishments owned by—			Average number of wage earners.							Value of products.						
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.		
		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Cor- pora- tions.	All oth- ers.	Indi- vid- uals.	Cor- pora- tions.	All oth- ers.		Indi- vid- uals.	Corpora- tions.	All others.	Indi- vid- uals.	Corpora- tions.	All oth- ers.
United States.....	1914 1909	94 108	103 104	27 61	21,318 25,064	1,809 2,672	17,507 17,397	2,002 4,995	8.5 10.7	82.1 69.4	9.4 19.9	\$37,349,744 47,864,630	\$3,509,142 5,679,082	\$30,368,386 31,607,227	\$3,472,216 10,578,321	9.4 11.9	81.3 66.0	9.3 22.1
Connecticut.....	1914 1909	19 20	33 44	6 16	5,461 5,217	538 248	4,437 3,935	486 1,034	9.9 4.8	81.2 75.4	8.9 19.8	9,475,778 10,399,860	1,063,554 531,682	7,539,623 7,747,795	872,601 2,120,383	11.2 5.1	79.6 74.5	9.2 20.4
New Jersey.....	1914 1909	14 22	23 22	4 14	4,401 4,657	412 719	3,626 2,630	363 1,308	9.4 15.4	82.4 56.5	8.2 28.1	7,969,344 8,825,217	480,513 1,210,551	6,861,258 4,813,212	627,573 2,801,454	6.0 13.7	86.1 54.5	7.9 31.7
New York.....	1914 1909	21 24	12 11	6 9	3,563 5,013	344 423	3,165 3,949	54 641	9.7 8.4	88.8 78.8	1.5 12.8	6,637,380 10,218,660	1,187,897 1,558,550	5,268,155 7,029,231	181,328 1,630,879	17.9 15.3	79.4 68.8	2.7 16.0
Pennsylvania.....	1914 1909	16 17	7 9	4 12	6,714 7,220	438 1,166	5,339 4,792	937 1,262	6.5 16.1	79.5 66.4	14.0 17.5	11,040,820 13,022,617	591,760 2,039,559	8,966,362 8,308,103	1,482,698 2,674,955	5.4 15.7	81.2 63.8	13.4 20.5
All other states.....	1914 1909	24 25	28 18	7 10	1,179 2,957	77 116	940 2,091	162 750	6.5 3.9	79.7 70.7	13.8 25.4	2,226,422 5,398,276	185,418 338,740	1,732,988 3,708,886	308,016 1,350,650	8.3 6.3	77.9 68.7	13.8 25.0

Size of establishments.—Table 10 presents statistics for 1914, 1909, and 1904 for establishments in the fur-felt hat industry grouped according to the value of

their products. The per cent distribution of the items constituting each total is also given.

Table 10

VALUE OF PRODUCT PER ESTABLISHMENT.		THE FUR-FELT HAT INDUSTRY.									
		Number of establish-ments.			Average number of wage earners.		Value of products.			Value added by manufac-ture.	
		1914	1909	1904	1914	1909	1914	1909	1904	1914	1909
Total.....		224	273	216	21,318	25,064	\$37,349,744	\$47,864,630	\$36,629,353	\$20,402,686	\$25,755,399
Less than \$5,000.....		39	35	18	52	53	89,827	104,234	61,337	55,025	57,340
\$5,000 to \$20,000.....		59	63	61	281	334	606,939	695,573	655,316	353,841	364,553
\$20,000 to \$100,000.....		52	78	60	1,379	1,987	2,534,833	3,639,413	3,291,900	1,095,499	1,899,810
\$100,000 to \$1,000,000.....		68	91	71	11,538	13,141	20,499,188	26,673,802	21,389,673	10,583,426	13,638,139
\$1,000,000 and over.....		6	6	6	8,068	9,549	13,618,957	16,751,608	11,231,127	8,314,895	9,795,557
Total.....		PER CENT DISTRIBUTION.									
		100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Less than \$5,000.....		17.4	12.8	8.3	0.2	0.2	0.2	0.2	0.2	0.3	0.2
\$5,000 to \$20,000.....		26.3	23.1	28.2	1.3	1.3	1.6	1.5	1.8	1.7	1.4
\$20,000 to \$100,000.....		23.2	28.6	27.8	6.5	7.9	6.8	7.6	9.0	5.4	7.4
\$100,000 to \$1,000,000.....		30.4	33.3	32.9	54.1	52.4	54.9	55.7	58.4	51.9	53.0
\$1,000,000 and over.....		2.7	2.2	2.8	37.9	38.1	36.5	35.0	30.7	40.7	38.0

In 1914 only six establishments manufactured products valued at \$1,000,000 or over, but they reported 36.5 per cent of the total value of products for all establishments.

The average value of products per establishment decreased from \$175,328 in 1909 to \$166,740 in 1914, while the average value added by manufacture decreased from \$94,342 to \$91,083; the average number

of wage earners per establishment, however, shows an increase from 92 in 1909 to 95 in 1914.

Table 11 gives, for 1914 and 1909, for the industry as a whole and for the leading states, the number of establishments and the number of wage earners classified according to the average number of wage earners per establishment.

Table 11

Table 11		Cen- sus year.	TOTAL.		ESTABLISHMENTS IN THE FUR-FELT HAT INDUSTRY EMPLOYING—																
			Estab- lish- ments.	Wage earners (average num- ber).	No wage earn- ers.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
						Estab- lish- ments.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.
United States.	1914 1909	224 273	21,318 25,064	6 12	74 71	194 200	46 56	510 687	22 47	671 1,597	25 32	1,725 2,224	30 31	4,817 4,600	17 19	6,002 6,579	2 2	1,101 1,102	2 3	6,298 8,075	
California.....	1914 1909	6 2	58 21	..... .....	1 1	1 2	4 1	35 19	1	22 .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
Connecticut.....	1914 1909	58 80	5,461 5,217	2 2	9 17	15 47	9 12	103 172	8 17	286 629	13 13	870 884	10 14	1,616 1,983	7 5	2,571 1,502	..... .....	..... .....	..... .....	..... .....	
Illinois.....	1914 1909	9 10	43 99	 1	6 5	9 21	3 3	34 44	 1	 34	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
Massachusetts.....	1914 1909	10 11	629 2,224	..... .....	4 2	10 3	3 2	23 31	..... .....	..... .....	1 4	60 234	1 1	134 176	1 1	402 386	..... .....	..... .....	1 1	1,334	
Missouri.....	1914 1909	6 4	114 32	..... .....	1 2	3 10	2 2	24 22	3	87 .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
New Jersey.....	1914 1909	41 58	4,401 4,657	1 1	8 11	27 37	7 8	63 88	1 12	39 436	7 10	493 746	12 11	1,905 1,549	4 4	1,294 1,226	1 1	580 575	..... .....	..... .....	
New York.....	1914 1909	39 44	3,563 5,013	1 4	13 13	33 37	10 8	133 109	5 9	126 257	4 4	302 279	1	105	4 4	1,471 1,521	 1	 527	1 1	1,393 2,233	
Ohio.....	1914 1909	7 3	27 9	..... .....	7 2	27 3	 1	 6	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	
Pennsylvania.....	1914 1909	27 38	6,714 7,220	1 2	10 7	22 12	6 13	81 145	2 6	57 191	 1	 81	5 3	864 449	1 5	264 1,944	1	521	1 1	4,905 4,398	
All other states.....	1914 1909	21 23	308 572	1 2	15 11	47 28	2 6	14 51	2 2	54 50	..... .....	..... .....	1 2	193 443	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	

Six establishments, in 1904, employed no wage earners; 167, or 74.6 per cent, of the establishments employed 100 wage earners or less; while 51 establishments employed more than 100 wage earners, reporting 85.5 per cent of the total number in the industry.

Engines and power.—Table 12 shows, for 1914, 1909, and 1904, for the industry, the number and horsepower of engines or motors employed in generating

power (including electric motors operated by purchased current). It also shows separately the number and horsepower of electric motors operated by current generated in the establishments reporting.

The total amount of primary horsepower used in the industry increased 26 per cent from 1904 to 1914. Steam and rented electric power are the leading kinds of primary power used.

Table 12

POWER.	THE FUR-FELT HAT INDUSTRY.								
	Number of engines or motors.			Horsepower.					
	1914	1909	1904	Amount.			Per cent distribution.		
				1914	1909	1904	1914	1909	1904
Primary power, total.....	638	483	251	20,851	19,245	16,630	100.0	100.0	100.0
Owned.....	155	185	213	18,119	16,845	15,987	86.9	87.5	96.1
Steam engines and turbines ¹	147	175	203	17,936	16,653	15,871	86.0	86.5	95.4
Internal-combustion engines.....	6	8	5	48	172	48	0.2	0.9	0.3
Water wheels, turbines, and motors.....	2	2	5	135	20	68	0.6	0.1	0.4
Rented.....	483	298	38	2,732	2,400	643	13.1	12.5	3.9
Electric.....	483	298	38	2,655	2,172	369	12.7	11.3	2.2
Other.....				77	228	274	0.4	1.2	1.6
Electric.....	1,258	834	340	8,141	6,186	2,434	100.0	100.0	100.0
Rented.....	483	298	38	2,655	2,172	369	32.6	35.1	15.2
Generated by establishments reporting.....	775	536	302	5,486	4,014	2,065	67.4	64.9	84.8

¹ Figures for horsepower include for 1909 the amounts reported under the head of "other" owned power.

The total horsepower reported for the three leading states (Connecticut, Pennsylvania, and New Jersey) in 1914 formed 81.5 per cent of the total for the United States. Statistics of the power used in the leading states for 1914 are given in Table 16.

Fuel consumed.—Bituminous and anthracite coal were the principal kinds of fuel used, 57,247 short tons of the former and 72,954 long tons of the latter being consumed during 1914.

SPECIAL STATISTICS RELATING TO MATERIALS AND PRODUCTS.

Table 13 presents statistics as to the materials used and products reported by the industry for 1914, 1909, and 1904, and shows also the percentage of increase from 1904 to 1914.

The totals in this table involve some duplication due to the use of the products of one establishment, especially hat bodies and hats in the rough, as materials for another. The difference between the number of fur-felt hat bodies and hats in the rough used as materials by some establishments and the number manufactured as products by others is due in part to the fact that not all these bodies were used in the same year in which made, in part to the fact that some of them were purchased from establishments classified in other industries, and in part to the further fact that old hats, "knock downs," "seconds," crowns, brims, etc., which are often remodeled and then sold as new hats, are usually classed by the finishers under their materials as "hat bodies and hats in the rough," but are either not purchased from hat manufacturers at all or are not considered as "hat bodies" by the manufacturers and consequently do not appear in the corresponding item under products.

Table 13

	THE FUR-FELT HAT INDUSTRY.			
	1914	1909	1904	Per cent of increase, ¹ 1904-1914.
Materials, total cost.....	\$16,947,058	\$22,109,231	\$15,975,206	6.1
Hatters' fur:				
Pounds.....	5,766,904	8,645,576	6,718,359	-14.2
Cost.....	\$7,108,248	\$9,278,922	\$6,743,936	5.4
Fur-felt hat bodies and hats in the rough:				
Dozens.....	395,848	406,447	211,760	86.9
Cost.....	\$2,453,503	\$2,575,248	\$1,351,372	81.6
Chemicals and dyestuffs.....	\$432,161	\$843,587	\$1,140,281	-62.1
All other materials.....	\$6,953,146	\$9,411,474	\$6,739,617	3.2
Products, total value.....	\$37,349,744	\$47,864,630	\$36,629,353	2.0
Fur-felt hats:				
Dozens.....	2,118,634	2,989,252	2,611,875	-18.9
Value.....	\$33,603,531	\$43,442,466	\$34,314,234	-2.1
Fur-felt hat bodies and hats in the rough:				
Dozens.....	329,363	366,370	88,986	270.1
Value.....	\$2,372,937	\$2,703,738	\$660,959	259.0
All other products, value.....	² \$864,309	\$1,164,872	\$1,093,361	-20.9
Work on materials for others.....	² \$508,967	\$553,554	\$560,799	-9.3

¹ A minus sign (-) denotes decrease.

² The final figures here given differ from and should be substituted for those published on p. 78 of the Abstract.

The cost of hatters' fur, the principal material used, constituted a continuously smaller proportion of the total cost of materials at each succeeding census; from 47.2 per cent of the total in 1899 it declined to 42.2 per cent in 1904, 42 per cent in 1909, and 41.9 per cent in 1914.

The cost of "all other materials" has remained in about the same ratio to the total cost of materials for each census period, being 41 per cent of the total in 1914, 42.6 per cent in 1909, 42.2 per cent in 1904 and 41.4 per cent in 1899. This item includes the cost of goat or sheep-skin leather, cotton or silk bands, bindings, hat wires, and other trimmings, shellac for stiffening, dyestuffs for coloring, as well as of the cases required for packing and shipping the products.

In addition to the products shown in this table, fur-felt hats and hat bodies to the value of \$476,449 in 1914, \$806,601 in 1909 and \$333,441 in 1904, were made by establishments engaged primarily in the manufacture of products other than those covered by the industry designation, namely, fur goods, straw hats, wool-felt hats, millinery and lace goods, and hats and caps, other than straw, felt, and wool.

Work on materials for others is of two sorts—work on contract for other manufacturers or dealers which amounted to \$269,775, and custom work and repairing by small hat shops for individuals, which yielded \$239,192. It may be noted that the amount paid for contract work by felt-hat manufacturers, as shown in Table 1, amounted to only \$19,825. Most of this kind of work was performed for dealers who had all processes of the work done on contract for them and consequently were not considered as "manufacturers." Among "all other products" in 1914 were straw hats to the value of \$446,943, silk hats valued at \$152,747, and hatters' fur to the amount of \$102,147.

Table 14 presents a detailed statement of the principal materials and products by states:

Connecticut ranked first among the states in 1914 in respect to the number of dozens of finished hats produced, 515,986 dozens being reported which represented 24.4 per cent of the production of the United States; in the value of finished hats Connecticut ranked second, Pennsylvania being first.

Connecticut reported more than four-fifths of the quantity of hat bodies and hats in the rough produced

for sale as such in the entire United States. A feature of the industry in Connecticut, especially in Danbury, was the large number of establishments producing hat bodies as a final product, and in conjunction with these a number of rather large establishments engaged solely in "finishing." To the extent that the hat bodies reported as the products of one establishment were used as materials in another, there is a duplication in the total value of products for the state. Although 267,178 dozen hat bodies and hats in the rough were manufactured for sale in Connecticut in 1914, only 90,745 dozen were purchased for "finishing" by Connecticut factories. In other words, about two-thirds of the rough bodies produced in the state were made into finished hats in establishments located outside the state.

Table 14

THE FUR-FELT HAT INDUSTRY.

STATE.	Cost or value, 1914.	Quantity.		
		1914	1909	1904
MATERIALS.				
Hatters' fur.....	\$7,108,248	<i>Pounds.</i> 5,766,904	<i>Pounds.</i> 8,645,576	<i>Pounds.</i> 6,718,359
Connecticut.....	1,967,618	1,731,569	1,673,332	1,385,325
Massachusetts.....	(1)	(1)	1,047,438	547,484
New Jersey.....	1,690,520	1,327,918	1,817,020	1,880,510
New York.....	706,701	842,514	1,883,207	1,563,680
Pennsylvania.....	2,519,557	1,459,412	1,976,118	1,227,951
All other states.....	223,852	405,491	248,461	113,409
Fur-felt bodies and hats in the rough.....	2,453,503	<i>Dozen.</i> 395,848	<i>Dozen.</i> 406,447	<i>Dozen.</i> 211,760
California.....	67,505	8,318	(1)	(1)
Connecticut.....	540,939	90,745	87,117	30,783
Illinois.....	40,169	5,012	12,993	6,640
Massachusetts.....	50,897	6,775	29,979	3,289
Missouri.....	133,917	13,775	(1)	(1)
New Jersey.....	186,901	58,256	29,156	40,992
New York.....	1,200,908	180,848	194,268	92,984
Ohio.....	32,375	4,244	(1)	(1)
Pennsylvania.....	75,071	11,987	26,984	23,512
All other states.....	124,821	15,888	25,950	13,560
PRODUCTS.				
Fur-felt hats.....	33,603,531	2,118,634	2,989,252	2,611,875
California.....	145,103	8,318	(1)	2,320
Connecticut.....	7,585,947	515,986	530,558	600,312
Illinois.....	102,733	5,012	13,286	.....
Massachusetts.....	708,793	62,711	320,587	234,792
Missouri.....	272,671	13,775	(1)	(1)
New Jersey.....	7,149,716	496,423	579,596	676,906
New York.....	5,943,763	477,338	776,258	631,374
Ohio.....	75,523	4,244	(1)	(1)
Pennsylvania.....	11,013,629	472,498	668,696	413,506
All other states.....	605,653	62,329	100,271	52,665
Fur-felt hat bodies and hats in the rough.....	2,372,937	329,363	366,370	88,986
Connecticut.....	1,741,885	267,178	335,947	63,676
All other states.....	631,052	62,185	30,423	25,310

¹ Included in "all other states."

DETAIL STATE TABLES.

The principal data secured by the census inquiry concerning the manufacture of fur-felt hats are presented, by states, in Tables 15 and 16. Table 15 shows for 1914, 1909, and 1904, the number of estab-

lishments, average number of wage earners, primary horsepower, wages, cost of materials, and value of products. Table 16 gives more detailed statistics for the industry for 1914 only.

TABLE 15.—COMPARATIVE SUMMARY OF THE FUR-FELT HAT INDUSTRY FOR 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.			STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.		
					Wages.	Cost of ma- terials.	Value of prod- ucts.						Wages.	Cost of ma- terials.	Value of prod- ucts.
United States.....	1914	224	21,318	20,851	\$12,071	\$16,947	\$37,350	New Jersey.....	1914	41	4,401	4,722	\$2,603	\$3,708	\$7,969
	1909	273	25,064	19,245	14,223	22,109	47,865		1909	58	4,657	5,046	2,969	4,112	8,825
	1904	216	22,047	16,630	11,282	15,975	36,629		1904	63	5,705	5,016	3,276	4,227	9,540
California.....	1914	6	58	16	39	92	157	New York.....	1914	39	3,563	2,388	1,855	3,491	6,637
	1909	3	23	8	15	30	74		1909	44	5,013	1,451	2,725	5,406	10,219
	1904	3	23	8	15	30	74		1904	43	4,397	3,487	2,309	3,478	7,740
Connecticut.....	1914	58	5,461	6,029	3,057	4,633	9,476	Ohio.....	1914	7	27	13	19	47	91
	1909	80	5,217	5,619	3,384	4,849	10,400		1909	3	9	9	5	4	15
	1904	56	5,158	3,729	2,696	3,954	8,663	Pennsylvania.....	1914	27	6,714	6,241	3,934	3,889	11,041
Illinois.....	1914	9	43	22	28	53	118		1909	38	7,220	5,335	3,725	5,013	13,023
	1909	10	99	20	71	155	287		1904	25	4,619	2,745	2,122	2,729	7,350
	1904	5	37	14	24	54	106	All other states.....	1914	21	308	420	184	362	675
Massachusetts.....	1914	10	629	976	279	470	865		1909	25	593	612	339	616	1,273
	1909	11	2,224	1,149	990	1,932	3,746		1904	15	522	451	213	378	840
	1904	6	1,586	1,180	627	1,125	2,316								
Missouri.....	1914	6	114	24	73	202	321								
	1909	4	32	4	15	22	77								
	1904														

¹ Not shown separately.

TABLE 16.—DETAIL STATISTICS FOR THE FUR-FELT HAT INDUSTRY, BY STATES: 1914.

STATE.	Num- ber of estab- lish- ments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15 OR NEAR- EST REPRESENTATIVE DAY.				EXPENSES.			
		Total.	Prop- ri- etors and firm mem- bers.	Salar- ied offi- cers, super- in- tend- ents, and man- agers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.	
					Male.	Fe- male.	Average num- ber.	Number, 15th day of—			Male.	Fe- male.	Male.	Fe- male.		Officials.	Clerks, etc.
								Maximum month.	Minimum month.								
United States....	224	22,932	163	433	801	217	21,318	Oct 22,438	My 19,791	21,552	15,550	5,750	160	92	\$39,401,429	\$985,254	\$944,197
California.....	6	69	2	7	1	1	58	No 66	Je 49	58	33	25	-----	-----	54,407	7,960	820
Connecticut.....	58	6,006	33	115	323	74	5,461	Fe 5,868	My 4,887	5,587	3,945	1,588	42	12	6,166,607	256,182	351,055
Illinois.....	9	57	8	5	1	-----	43	Ap 49	De 36	40	20	20	-----	-----	55,759	8,782	3,600
Massachusetts.....	10	704	7	32	18	18	629	Au 1,068	My 195	1,031	605	408	10	8	1,422,351	34,931	13,223
Missouri.....	6	121	2	5	-----	-----	114	Jy 119	Fe 107	115	68	46	1	-----	87,868	6,400	-----
New Jersey.....	41	4,724	25	120	134	44	4,401	Se 4,566	My 4,274	4,439	3,335	1,092	9	3	5,265,551	273,025	211,743
New York.....	39	3,868	34	95	119	57	3,563	Oct 4,088	My 3,142	3,360	2,367	988	3	2	6,295,235	198,219	132,592
Ohio.....	7	38	6	3	2	-----	27	Mh 129	Ja 22	28	16	12	-----	-----	29,439	4,000	1,000
Pennsylvania.....	27	6,991	27	32	199	19	6,714	Ja 7,109	De 6,315	6,590	4,954	1,476	94	66	19,525,904	155,155	225,432
Texas.....	3	24	7	4	-----	-----	13	My 17	Ja 5	12	6	5	1	-----	22,024	5,300	-----
All other states ²	18	330	12	15	4	4	295	-----	-----	292	201	90	-----	1	476,284	35,300	4,732

STATE.	EXPENSES—continued.						Value of products.	Value added by manufac- ture.	POWER.					Electric horse- power gener- ated in es- tablish- ments report- ing.
	Salaries and wages— Continued.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.					
			Wage earners.	Taxes, includ- ing rent of factory.	Taxes, includ- ing internal revenue and cor- poration income.	Principal materials.			Fuel and rent of power.	Total.	Steam engines. ³	In- ternal com- bus- tion en- gines. ⁴	Water wheels and motors. ³		Electric (rented).
United States....	\$12,070, \$12	\$19,825	\$154,925	\$169,701	\$16,391,382	\$555,676	\$37,349,744	\$20,402,686	20,851	17,936	125	135	2,655	5,486
California.....	39,428	-----	4,315	206	89,774	1,875	156,523	64,874	16	1	-----	-----	15	-----
Connecticut.....	3,057,272	15,963	29,091	31,338	4,462,424	170,850	9,475,778	4,842,504	6,029	4,871	35	-----	1,123	972
Illinois.....	28,050	-----	4,116	192	51,185	1,513	118,069	65,371	22	-----	-----	-----	22	-----
Massachusetts.....	278,668	-----	8,650	8,811	453,345	16,973	864,722	394,404	976	900	-----	-----	76	250
Missouri.....	73,127	-----	4,880	184	200,632	1,285	320,616	118,699	24	-----	-----	-----	24	-----
New Jersey.....	2,602,591	1,115	22,192	20,949	3,566,823	141,219	7,969,344	4,261,302	4,722	4,578	10	25	109	718
New York.....	1,854,477	288	48,759	20,213	3,407,917	82,811	6,637,380	3,146,652	2,388	1,975	35	110	268	76
Ohio.....	19,207	309	5,748	567	46,523	873	91,095	43,699	13	-----	-----	-----	13	-----
Pennsylvania.....	3,933,731	2,000	14,703	82,820	3,762,624	125,906	11,040,820	7,152,290	6,241	5,527	45	-----	669	3,470
Texas.....	11,532	-----	780	91	7,513	418	30,226	22,295	10	3	-----	-----	7	-----
All other states ²	172,729	150	11,691	4,330	342,622	11,953	645,171	290,596	410	81	-----	-----	329	-----

¹ Same number reported for one or more other months.² All other states embrace: Arkansas, 1; Delaware, 1; Iowa, 1; Kentucky, 2; Maine, 1; Maryland, 1; Michigan, 1; Montana, 1; Nebraska, 1; New Hampshire, 1; Oklahoma, 1; Oregon, 2; Rhode Island, 1; Washington, 1; West Virginia, 1; and Wisconsin, 1.³ Owned power only.⁴ Includes rented power, other than electric.

DYEING AND FINISHING TEXTILES.

GENERAL STATISTICS.

Scope of the industry.—This report presents statistics for all establishments engaged, primarily, in the dyeing and finishing of textiles. It covers the bleaching, dyeing, and mercerizing of raw fibers, of yarns, and of woven cloth, and the printing, finishing, "rubberizing," "waterproofing," etc., of piece goods, and it also includes establishments engaged in the processing, converting, beaming, and winding of yarns and in the spooling of thread, as well as a few establishments engaged in dyeing and bleaching straw braids. Although some establishments make a specialty of dyeing and finishing silk yarns and fabrics, and a number specialize in work on other classes of textiles, those that dye and finish more than one variety of fabric are so numerous that it is impossible to compile statistics which will correctly represent the work done on any particular material.

A considerable number of the cotton, silk, and woolen mills carry on in the same establishments one or more of these subordinate processes in connection with the manufacture of textiles. Where practicable, separate returns were secured for the dyeing and finishing departments of such mills, in which case these departments were treated as separate establishments in compiling statistics for this report.

Most of these mills, however, made no separate report for the dyeing and finishing department, the operations of the entire establishment being covered by a single

report. The statistics for the dyeing and finishing industry, therefore, do not fully cover the dyeing and finishing operations carried on in connection with the textile industries.

Comparison with earlier censuses.—Statistics for the dyeing and finishing industry were first obtained at the census of 1849, when 42 establishments were reported, giving employment to an average of 4,080 operatives. The returns for cost of materials and value of products included the value of the cloth treated and are therefore not comparable with those for later censuses, but the value added by manufacture was \$3,218,761. At the census of 1859 there were 29 establishments engaged in the industry, giving employment to an average of 4,005 operatives and reporting products to the value of \$7,971,064; the value added by manufacture was \$4,086,249. At the census of 1869, 42 establishments, employing an average of 8,894 operatives, were reported. The value of the cloth treated was included in the value of products at this census also, but the value added by manufacture amounted to \$8,072,686. In 1879 there were 191 establishments employing 16,698 operatives, while the value of the product, or work done, amounted to \$32,297,420 in that year, the value added being \$18,633,125.

Table 1 summarizes the statistics for the industry for each census from 1889 to 1914, inclusive, and gives percentages of increase.

	NUMBER OR AMOUNT.					PER CENT OF INCREASE. ¹			
	1914	1909	1904	1899	1889	1909-1914	1904-1909	1899-1904	1889-1899
Number of establishments.....	507	426	360	298	248	19.0	18.3	20.8	20.2
Persons engaged.....	53,273	47,303	38,071	31,394	(2)	12.6	24.2	21.3	.....
Proprietors and firm members.....	353	318	310	300	(2)	11.0	2.6	3.3	.....
Salaried employees.....	4,453	2,939	2,196	1,318	(2)	51.5	33.8	66.6	.....
Wage earners (average number).....	48,467	44,046	35,565	29,776	19,601	10.0	23.8	19.4	(3)
Primary horsepower.....	130,172	107,746	84,868	69,238	57,035	20.8	27.0	22.6	21.4
Capital.....	\$139,193,871	\$114,092,654	\$88,708,576	\$60,643,104	\$38,450,800	22.0	28.6	46.3	57.7
Salaries and wages.....	31,343,723	26,261,634	18,876,586	14,993,444	9,717,011	19.4	39.1	25.9	54.3
Salaries.....	6,471,405	5,034,710	3,407,381	2,267,128	(2)	28.5	47.8	50.3	.....
Wages.....	24,872,318	21,226,924	15,469,205	12,726,316	(3)	17.2	37.2	21.6	.....
Paid for contract work.....	222,370	337,422	92,885	41,735	(2)	-34.1	263.3	122.6	.....
Rent and taxes (including internal revenue).....	1,412,795	847,216	481,200	442,049	(2)	66.8	.....	.....	.....
Cost of materials.....	56,705,135	35,261,301	19,621,253	17,958,137	12,385,220	60.8	79.7	9.3	45.0
Value of products.....	109,291,536	83,556,432	50,849,545	44,963,331	28,900,560	30.8	64.3	13.1	55.6
Value added by manufacture (value of products less cost of materials).....	52,586,401	48,295,131	31,228,292	27,005,194	16,515,340	8.9	54.7	15.6	63.5

¹ A minus sign (—) denotes increase.

² Figures not available.

³ Figures not strictly comparable.

⁴ Does not include internal revenue.

The number of independent dyeing and finishing establishments shows a considerable increase for each of the intercensal periods covered by the table, the number in 1914 being more than twice that in 1889. There was a substantial increase in value of products during each of the decades between 1889 and 1909, as well as during the five years from 1909 to 1914. The period of greatest progress, however,

was from 1904 to 1909, when the relative gain in each of the more important items in the table was far in excess of that shown for the latter half of the last decade. In general, the cost of materials consists chiefly of the amount expended for dyestuffs and other chemicals and the value of products represents the amount which is charged for performing the dyeing and finishing processes, the goods dyed or

finished in most instances belonging to other concerns. In some instances, however, the goods dyed or finished are owned by the establishments which perform these final operations and under such circumstances the cost of the fabric is included in the cost of materials, while the value of the finished cloth is included in the value of products. The large increases in cost of materials and value of products shown for the five-year periods, 1904-1909, and 1909-1914, therefore, may be due in part to the fact that a larger proportion of the value of the fabrics treated was included in the cost of materials in 1914 and 1909 than in 1904.

Summary, by states.—Table 2 summarizes the more important statistics of the industry by states, the

states being arranged according to the value of products reported for 1914. The states shown in this table are given their actual ranking among all states, the rank of certain states for which figures can not be presented being higher than that of some enumerated in the table. The extent to which the establishments in the several states owned the materials upon which they worked greatly influences their rank in value of products, and no doubt largely accounts for the seeming discrepancy between the proportion of the total value of products contributed by certain states as compared with the proportion which the same states contributed of the total number of wage earners, or the value added by manufacture.

STATE.	CENSUS OF 1914.										PER CENT OF INCREASE. ¹								
	Number of establishments.	Wage earners.			Value of products.			Value added by manufacture.			Wage earners (average number)			Value of products.			Value added by manufacture.		
		Average number.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	Amount.	Per cent distribution.	Rank.	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904	1909-1914	1904-1909	1899-1904
United States....	507	48,467	100.0	.....	\$109,291,536	100.0	.....	\$52,586,401	100.0	.....	10.0	23.8	19.4	30.8	64.3	13.1	8.9	54.7	15.6
New Jersey.....	98	11,683	24.1	1	27,986,512	25.6	1	14,280,512	27.2	1	15.3	33.3	7.4	77.2	31.9	14.2	51.2	36.3	15.9
Massachusetts....	57	11,437	23.6	2	22,455,086	20.5	2	11,466,083	21.8	2	26.0	20.9	60.5	2.6	98.1	24.6	0.4	66.3	19.3
New York.....	99	5,514	11.4	5	16,302,576	14.9	3	5,850,598	11.1	5	5.0	46.5	15.0	68.5	121.8	20.3	5.7	83.1	35.9
Rhode Island.....	47	7,928	16.4	3	16,300,783	14.9	4	7,536,480	14.3	3	1.7	3.0	27.3	16.8	39.8	17.6	-12.7	36.2	17.5
Pennsylvania.....	150	6,389	13.2	4	15,451,576	14.1	5	6,995,888	13.3	4	5.0	32.7	-2.8	28.1	77.7	-3.6	4.0	64.7	5.7
Connecticut.....	12	1,764	3.6	6	3,503,139	3.2	6	2,048,153	3.9	7	2.6	22.3	8.2	-1.7	60.8	-2.4	-1.6	61.6	-5.5
Ohio.....	5	382	0.8	9	705,618	0.6	8	262,033	0.5	10	107.6	.....	.....	66.8	.....	45.3	.....	.....	.....
Illinois.....	8	268	0.6	10	504,199	0.5	10	296,405	0.6	9	55.8	39.8	.....	39.0	125.5	317.2	15.2	96.9	.....
Kentucky.....	3	116	0.2	15	247,326	0.2	14	138,338	0.3	13	.....	.....	.....	.....	.....	.....	.....	.....	.....
Maryland.....	4	87	0.2	18	204,710	0.2	16	108,035	0.2	17	.....	.....	.....	.....	.....	.....	.....	.....	.....
North Carolina....	4	194	0.4	11	203,379	0.2	17	97,869	0.2	16	-41.2	9.6	63.6	-33.7	22.3	42.6	-49.6	17.6	.....
All other states....	20	2,705	5.6	.....	5,426,632	5.0	.....	3,506,007	6.7	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....

¹ Percentages are based on figures in Table 11. A minus sign (—) denotes decrease. Percentages are omitted where base is less than 100 for wage earners or less than 100,000 for value of products or value added by manufacture.

Five states—New Jersey, Massachusetts, New York, Pennsylvania, and Rhode Island combined—reported 89 per cent of the number of establishments, 88.7 per cent of the wage earners, 90 per cent of the value of products, and 87.7 per cent of the value added by manufacture.

New Jersey ranked first in 1914 in number of wage earners, value of products, and value added by manufacture, having passed Massachusetts in value of products since 1909; in 1904 New Jersey ranked first in each respect.

Persons engaged in the industry.—Table 3 shows, for 1914 and 1909, the number of persons engaged in the industry distributed by sex, the average number of wage earners being distributed also by age. The sex and age classification of the average number of wage earners in this and other tables is an estimate obtained by the method described in the "Explanation of terms."

The total number of persons engaged in the industry in 1914 increased by 5,970, or 12.6 per cent over 1909. The number of women employed as clerks in 1914 was nearly double that reported in 1909, and their proportion of the total of this class increased from 21.8 per

cent to 26.2 per cent. The average number of wage earners increased by 4,421, or 10 per cent. More than four-fifths of the wage earners were males—practically the same proportion as in 1909. A small and decreasing number of children were employed as wage earners.

CLASS.	Census year.	PERSONS ENGAGED IN THE INDUSTRY.				
		Total.	Male.	Female.	Per cent of total.	
					Male.	Female.
All classes.....	1914 1909	53,273 47,303	43,654 38,581	9,619 8,722	81.9 81.6	18.1 18.4
Proprietors and officials.....	1914 1909	1,495 1,218	1,460 1,190	35 28	97.7 97.7	2.3 2.3
Proprietors and firm members..	1914 1909	353 318	338 308	15 10	95.8 96.9	4.2 3.1
Salaried officers of corporations..	1914 1909	424 289	412 287	12 2	97.2 99.3	2.8 0.7
Superintendents and managers..	1914 1909	718 611	710 595	8 16	98.9 97.4	1.1 2.6
Clerks and other subordinate salaried employees.	1914 1909	3,311 2,039	2,444 1,595	867 444	73.8 78.2	26.2 21.8
Wage earners (average number)....	1914 1909	48,467 44,046	39,750 35,796	8,717 8,250	82.0 81.3	18.0 18.7
16 years of age and over.....	1914 1909	47,692 43,002	39,221 35,057	8,471 7,945	82.2 81.5	17.8 18.5
Under 16 years of age.....	1914 1909	775 1,044	529 739	246 305	68.3 70.8	31.7 29.2

The average number of wage earners employed in the industry in 1914, 1909, and 1904 is given for each state in Table 11. The distribution of the average number by sex and age is not shown for the individual states, but Table 12 gives for 1914 such a distribution of the number employed on December 15, or the nearest representative day. Female wage earners were reported from all of the 11 states shown in the table, the largest number, 2,051, from Massachusetts and the next largest number, 1,701, from New Jersey.

Wage earners employed, by months.—Table 4 gives, for 1914 and 1909, the total number of wage earners employed in the industry on the 15th of each month, or the nearest representative day, for each state in which the average number of wage earners was 500 or more, together with the percentage which the number for each month forms of the greatest number reported for any month.

Table 4

Table 4	STATE.	Census year.	WAGE EARNERS: 1914 AND 1909. [Month of maximum employment for each state is indicated by boldface figures and that of minimum by <i>italic</i> .]													Per cent mini- mum is of maxi- mum.
			Average number em- ployed during year.	Number employed on 15th day of the month or nearest representative day.												
				January.	Febru- ary.	March.	April.	May.	June.	July.	August.	Septem- ber.	October.	Novem- ber.	Decem- ber.	
United States.....	1914	48,467	49,059	50,369	51,070	50,815	49,681	49,291	47,915	46,981	48,007	47,662	<i>45,253</i>	45,501	88.6	
	1909	44,046	43,715	44,299	44,863	44,635	43,840	43,405	<i>43,212</i>	43,447	44,171	44,031	44,797	44,157	96.3	
Connecticut.....	1914	1,764	1,780	1,786	1,790	1,743	1,752	1,781	1,781	1,742	<i>1,725</i>	1,819	1,740	1,729	94.8	
	1909	1,719	1,720	1,716	1,754	1,768	1,738	1,735	1,700	1,688	<i>1,679</i>	1,704	1,701	1,730	95.0	
Delaware.....	1914	1,305	1,399	1,379	1,385	1,392	1,391	1,339	1,335	<i>1,128</i>	1,210	1,269	1,253	1,180	80.6	
	1909	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	1,580	.....	
Maine.....	1914	531	564	541	533	518	509	479	505	507	528	553	550	585	81.9	
	1909	523	528	532	532	528	488	525	523	508	508	516	531	552	88.4	
Massachusetts.....	1914	11,437	11,339	12,200	12,358	12,162	12,026	12,034	11,420	10,862	11,052	11,077	<i>10,079</i>	10,635	81.6	
	1909	9,079	8,932	8,964	9,206	9,039	9,012	9,113	9,152	9,116	9,278	<i>8,778</i>	9,235	9,125	94.6	
New Jersey.....	1914	11,683	11,790	12,140	12,261	12,180	11,863	11,552	11,435	11,543	12,019	11,706	10,961	<i>10,746</i>	84.7	
	1909	10,129	10,239	10,557	10,548	10,555	10,253	9,641	<i>9,526</i>	9,876	9,907	10,018	10,289	10,137	90.2	
New York.....	1914	5,514	5,382	5,458	5,724	6,066	5,885	5,871	5,578	5,451	5,492	5,265	5,042	<i>4,954</i>	81.7	
	1909	5,252	5,312	5,408	5,516	5,378	5,175	5,188	5,157	4,955	5,461	5,571	5,230	<i>4,682</i>	84.0	
Pennsylvania.....	1914	6,389	6,497	6,543	6,749	6,518	6,337	6,383	6,271	6,321	6,445	6,276	<i>6,160</i>	6,168	91.3	
	1909	6,086	6,122	6,005	6,138	6,132	6,026	5,994	<i>5,954</i>	5,990	5,970	6,075	6,250	6,376	93.4	
Rhode Island.....	1914	7,928	8,307	8,328	8,249	8,191	7,927	7,872	7,696	7,699	7,810	7,850	7,653	<i>7,554</i>	90.7	
	1909	7,792	<i>7,548</i>	7,700	7,783	7,829	7,660	7,726	7,737	7,823	7,855	7,891	7,994	7,957	94.4	

The industry manifests no marked tendency toward a seasonal variation, the minimum number (45,253) employed in November, 1914, being 88.6 per cent of the maximum (51,070) reported in March. The largest number of wage earners reported for any month of 1909 was 44,863 for March, and the smallest number, 43,212, for July, the minimum number being 96.3 per cent of the maximum. The greatest regularity in monthly employment in 1914 is shown for Connecticut where the minimum number of wage earners, 1,725, employed in September, formed 94.8 per cent of the maximum, 1,819, employed in October. The months of greatest and least employment in 1914, and the number of wage earners reported for such months, are given for a greater number of states in Table 12.

Prevailing hours of labor.—In Table 5 the average number of wage earners reported for 1914 and 1909 for the industry has been classified according to the number of hours of labor per week prevailing in the establishments in which they were employed. The number employed in each establishment was classified as a total, even though a few employees worked a greater or smaller number of hours.

Table 5

STATE.	Census year.	AVERAGE NUMBER OF WAGE EARNERS.						
		Total.	In establishments where the prevailing hours of labor per week were—					
			48 and under.	Between 48 and 54.	54.	Between 54 and 60.	60.	Between 60 and 72.
United States.....	1914	48,467	557	2,769	16,186	23,695	5,226	34
	1909	44,046	107	1,102	398	28,172	12,639	1,628
Connecticut.....	1914	1,764	12	.....	2	1,648	102	.....
	1909	1,719	.....	.....	2	351	1,366	.....
Delaware.....	1914	1,305	.....	.....	.....	1,288	17	.....
	1909	1,580	.....	.....	.....	1,580	.....	.....
Maine.....	1914	531	.....	.....	.....	531	.....	.....
	1909	523	.....	.....	.....	.....	523	.....
Massachusetts.....	1914	11,437	19	157	5,573	5,510	144	34
	1909	9,079	8	119	56	8,009	542	34
New Jersey.....	1914	11,683	7	912	159	9,203	1,402	.....
	1909	10,129	4	33	60	6,194	2,968	87
New York.....	1914	5,514	246	439	2,914	951	964	.....
	1909	5,252	65	816	197	2,830	1,324	2
Pennsylvania.....	1914	6,389	184	166	1,301	3,097	1,641	.....
	1909	6,086	10	39	33	2,078	3,874	5
Rhode Island.....	1914	7,928	3	832	5,862	972	259	.....
	1909	7,792	.....	.....	.....	6,334	1,438	2

This table indicates a tendency toward a decrease in the length of the working day in this industry. Over nine-tenths (96.4 per cent) of the wage earners in the industry in 1909, as compared with three-fifths (59.7 per cent) in 1914, were employed in establishments where the prevailing hours were more than 54 per week. More than half of the total number in 1909 and almost half in 1914 worked in establishments operating between 54 and 60 hours per week, while somewhat more than one-fourth (28.7 per cent) in 1909, as compared with one-tenth (10.8 per cent) in 1914, were in establishments where the hours were 60 per week. Only 3.6 per cent of the total number of wage earners in the industry in 1909, as compared with 40.3 per cent in 1914, were in establishments where the prevailing hours of employment per week were as low as 54.

The tendency toward a shortening of the working day is further shown by the decrease in the average

number of hours of labor per wage earner per week. These figures were obtained by computing the total number of hours of labor for all wage earners and dividing their total by the number of wage earners. The averages obtained were 55.9 in 1914 and 58 in 1909, indicating a decrease of 2.1 hours per week for the five-year period.

In making this computation the number of wage earners in each group is multiplied by the number of hours of labor per week for the group and the results of the several groups added. The lower group, "48 hours and under," has been figured at 48 hours; the "between 48 and 54" group at 51 hours; the "between 54 and 60" group at 57 hours; and the "between 60 and 72" group at 66 hours.

Character of ownership.—Table 6 presents statistics concerning the character of ownership, or legal organization, of establishments in the industry, for 1914 and 1909.

STATE.	Census year.	NUMBER OF ESTABLISHMENTS OWNED BY—			AVERAGE NUMBER OF WAGE EARNERS.									VALUE OF PRODUCTS.								
					Total.	In establishments owned by—			Per cent of total.			Total.	Of establishments owned by—			Per cent of total.			Total.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.
						Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.	Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.		Indi-vid-u-als.	Cor-pora-tions.	All oth-ers.							
United States.....	1914	134	276	97	48,467	4,276	41,219	2,972	8.8	85.0	6.1	\$109,291,536	\$7,971,546	\$94,193,033	\$7,126,957	7.3	86.2	6.5				
	1909	123	214	89	44,046	3,166	38,397	2,483	7.2	87.2	5.6	83,556,432	5,502,502	72,248,551	5,805,379	6.6	86.5	6.9				
Massachusetts.....	1914	7	45	5	11,437	244	10,376	817	2.1	90.7	7.1	22,455,086	347,305	20,149,734	1,958,047	1.5	89.7	8.7				
	1909	6	35	7	9,079	248	8,525	306	2.7	93.9	3.4	21,892,890	283,436	20,949,085	660,369	1.3	95.7	3.0				
New Jersey.....	1914	20	65	13	11,683	386	10,821	476	3.3	92.6	4.1	27,986,512	602,055	26,576,945	807,512	2.2	95.0	2.9				
	1909	19	42	6	10,129	296	9,367	466	2.9	92.5	4.6	15,795,788	388,837	14,704,571	702,380	2.5	93.1	4.4				
New York.....	1914	34	43	22	5,514	366	4,784	364	6.6	86.8	6.6	16,302,576	1,167,860	13,850,983	1,283,733	7.2	85.0	7.9				
	1909	31	34	16	5,252	422	4,496	334	8.0	85.6	6.4	9,673,228	1,119,383	6,715,938	1,837,907	11.6	69.4	19.0				
Pennsylvania.....	1914	50	53	47	6,389	899	4,346	1,144	14.1	68.0	17.9	15,451,576	1,556,282	11,273,668	2,621,626	10.1	73.0	17.0				
	1909	48	37	50	6,086	859	4,067	1,160	14.1	66.8	19.1	12,059,297	1,432,593	8,570,600	2,056,104	11.9	71.1	17.0				
Rhode Island.....	1914	12	32	3	7,928	2,194	5,721	13	27.7	72.2	0.2	16,300,783	3,969,996	12,309,842	20,945	24.4	75.5	0.1				
	1909	10	32	3	7,792	1,171	6,564	57	15.0	84.2	0.7	13,955,700	2,023,878	11,862,353	69,469	14.5	85.0	0.5				

The industry, as a whole, shows a substantial increase from 1909 to 1914 in the number of establishments under corporate control, but a slight decrease in the proportion of the total wage earners employed and in the value of products reported by this class.

There was considerable variation among the states in the relative importance of establishments operated by individuals and corporations. Thus, in Massachusetts, corporations constituted almost four-fifths of the total number of establishments, gave employment to nine-tenths of the wage earners, and reported almost nine-tenths of the total value of products. The proportions for the two latter items for New Jersey, where almost two-thirds of the establishments were under corporate ownership, were even higher. In Pennsylvania, on the other hand, corporations controlled only about one-third of the establishments, but gave employment to more than two-thirds of the wage earners and contributed 73 per cent of the total value of products.

Size of establishments.—The tendency of the industry to become concentrated in large establishments is indicated by the statistics given in Table 7.

Of the 507 establishments reported for 1914, 25, or 4.9 per cent, reported products valued at \$1,000,000 or over. While such establishments represented a small proportion of the total number, they reported more than one-half of the total value of products.

On the other hand, the small establishments—that is, those having products valued at less than \$20,000—constituted 29.2 per cent of the total number of establishments, but the value of their products represented only 1.2 per cent of the total. The great bulk of manufactures was reported by plants having products valued at \$100,000 or over, such establishments reporting 89.5 per cent of the total value in 1914 and 89.4 per cent in 1909.

During the five years, 1909 to 1914, the average value of products per establishment as computed from Table 1, increased from \$196,142 in 1909 to \$215,565

in 1914; the average value added by manufacture, age number of wage earners per establishment from decreased from \$113,369 to \$103,721, and the aver- 103.4 to 95.6.

Table 7											
VALUE OF PRODUCT.	Cen- sus year.	Num- ber of estab- lish- ments.	Average number of wage earners.	Value of products.	Value added by manu- facture.	VALUE OF PRODUCT.	Cen- sus year.	Num- ber of estab- lish- ments.	Average number of wage earners.	Value of products.	Value added by manu- facture.
All classes.....	1914 1909	507 426	48,467 44,046	\$109,291,536 83,556,432	\$52,586,401 48,295,131	Per cent distribution: Less than \$5,000.....	1914 1909	9.5 8.9	0.3 0.2	0.1 0.1	0.2 0.2
Less than \$5,000.....	1914 1909	48 38	129 86	141,421 109,788	107,955 84,775	\$5,000 to \$20,000.....	1914 1909	19.7 20.9	1.8 1.7	1.1 1.3	1.6 1.6
\$5,000 to \$20,000.....	1914 1909	100 89	866 743	1,212,588 1,079,228	842,050 792,475	\$20,000 to \$100,000.....	1914 1909	38.5 38.7	11.1 10.1	9.3 9.2	10.3 9.6
\$20,000 to \$100,000.....	1914 1909	195 165	5,360 4,428	10,122,651 7,663,519	5,390,193 4,638,022	\$100,000 to \$1,000,000.....	1914 1909	27.4 26.8	45.5 49.5	38.9 44.8	44.1 46.4
\$100,000 to \$1,000,000.....	1914 1909	139 114	22,034 21,798	42,463,422 37,395,345	23,205,327 22,415,860	\$1,000,000 and over.....	1914 1909	4.9 4.7	41.4 38.6	50.6 44.6	43.8 42.2
\$1,000,000 and over.....	1914 1909	25 20	20,078 16,991	55,351,454 37,308,552	23,040,876 20,363,999						

Table 8 shows the size of establishments in 1914 and 1909 as measured by the number of wage earners em- ployed for the industry as a whole and for eight lead- ing states.

Table 8	STATE.	Cen- sus year.	TOTAL.		ESTABLISHMENTS EMPLOYING—																
			Estab- lish- ments.	Wage earners (aver- age num- ber).	No wage earn- ers.	1 to 5 wage earners.		6 to 20 wage earners.		21 to 50 wage earners.		51 to 100 wage earners.		101 to 250 wage earners.		251 to 500 wage earners.		501 to 1,000 wage earners.		Over 1,000 wage earners.	
						Estab- lish- ments.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.	Estab- lish- ments.	Wage earn- ers.
United States.	1914 1909	507 426	48,467 44,046	7 4	83 78	270 240	160 126	2,072 1,631	106 80	3,664 2,602	49 47	3,368 3,109	54 41	8,596 6,675	22 23	7,748 8,056	18 21	11,247 13,896	8 6	11,502 7,837	
Connecticut.....	1914 1909	12 10	1,764 1,719	..... .....	1 1	2 2	3 3	40 50	4 3	113 127	1	58	1	228	 1	256	2 2	1,323 1,284	..... .....	..... .....	
Delaware.....	1914 1909	2 1	1,305 1,580	..... .....	..... .....	..... .....	1	17 .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	1 1	1,288 1,580	
Maine.....	1914 1909	1 1	531 523	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	..... .....	1 1	531 523	..... .....	..... .....	
Massachusetts.....	1914 1909	57 48	11,437 9,079	 1	4 3	13 10	11 8	162 84	10 7	315 225	11 6	807 357	8 12	1,430 1,999	6 5	2,047 1,733	4 5	2,280 3,576	3 1	4,383 1,095	
New Jersey.....	1914 1909	98 67	11,683 10,129	..... .....	22 12	81 34	19 15	238 170	24 12	852 369	8 11	507 691	14 7	2,074 1,098	5 2	1,813 614	3 5	1,882 3,042	3 3	4,236 4,111	
New York.....	1914 1909	99 81	5,514 5,252	3 2	17 17	52 48	48 33	560 441	15 14	477 451	3 4	190 308	8 3	1,320 543	4 5	1,320 1,477	 3	 1,984	1	1,595	
Pennsylvania.....	1914 1909	150 135	6,389 6,086	2	28 29	86 98	58 46	778 630	37 32	1,317 1,019	14 15	958 948	7 9	991 1,236	2 3	842 1,261	2 1	1,417 894	..... .....	..... .....	
Rhode Island.....	1914 1909	47 45	7,928 7,792	..... .....	5 7	20 25	10 10	135 149	7 6	233 211	4 4	306 343	10 8	1,694 1,515	5 6	1,726 2,462	6 3	3,814 2,036	 1	 1,051	

Of the 507 establishments engaged in the industry, 7 employed no wage earners. These were small plants in which the work was done by proprietors and firm members. The small establishments (those employing from 1 to 50 wage earners) greatly predominate and they represent a slightly increased proportion of the total in 1914 as compared with 1909. Nearly one-third of all establishments reporting employed from 6 to 20 wage earners each. The number of wage earners in establishments employing more than 1,000 wage earners formed 23.7 per cent of the total for the industry in 1914 and 17.8 per cent in 1909.

Engines and power.—Table 9 shows, for 1914, 1909, and 1904, for the industry, the number and horsepower of engines or motors employed in generating power (including electric motors operated by purchased cur-

rent). It also shows separately the number and horse-power of electric motors operated by current generated in the establishments reporting.

At each census steam power constituted the major part of the primary power employed in the industry, the proportion which it formed of the total increasing slightly from census to census. The amount of water-power, on the other hand, showed an absolute as well as a relative decrease from 1904 to 1914. There was a considerable increase in the horsepower of electric motors operated by purchased current (rented electric power). The number and horsepower of electric motors used for distributing power by means of current generated in the establishments in the industry also showed a very decided increase.

Table 9

POWER.	NUMBER OF ENGINES OR MOTORS.			HORSEPOWER.					
				Amount.			Per cent distribution.		
	1914	1909	1904	1914	1909	1904	1914	1909	1904
Primary power, total.....	2,694	2,181	1,663	130,172	107,746	84,868	100.0	100.0	100.0
Owned.....	1,964	1,990	1,621	122,165	103,605	81,396	93.8	96.2	95.9
Steam engines and turbines ¹	1,868	1,893	1,533	111,506	92,284	70,385	85.7	85.6	82.9
Internal-combustion engines.....	32	20	10	690	1,207	1,881	0.5	1.1	11.0
Water wheels, turbines, and motors.....	64	77	78	9,969	10,114	10,130	7.7	9.4	11.9
Rented.....	730	191	42	8,007	4,141	3,472	6.2	3.8	4.1
Electric.....	730	191	42	7,162	2,665	1,087	5.5	2.5	1.3
Other.....				845	1,476	2,385	0.6	1.4	2.8
Electric.....	4,249	1,419	488	51,021	24,011	11,724	100.0	100.0	100.0
Rented.....	730	191	42	7,162	2,665	1,087	14.0	11.1	9.3
Generated by establishments reporting.....	3,519	1,228	446	43,859	21,346	10,637	86.0	88.9	90.7

¹ Figures for horsepower include for 1904 the amounts reported under the head of "other" owned power.

Table 12 shows the amount of the different kinds of power, by states. The states which ranked highest with respect to the amount of power used were Massachusetts, Rhode Island, New Jersey, Pennsylvania, and New York. The total horsepower reported for those states in 1914 was 107,529, or 82.6 per cent of the total for the United States. Steam was the most important form of power in all of the states shown in the table. The largest amount of steam power was reported for Massachusetts, the largest amount of water power for Connecticut, and the largest amount of rented electric power for Massachusetts.

Fuel consumed.—Table 10 shows, for 1914, the quantity of each kind of fuel used for which data were obtained, for the industry as a whole, and for 11 separate states.

Bituminous coal was the principal class of fuel used in every state, except New Jersey, in which anthracite coal was the leading kind of fuel reported.

Table 10

STATE.	COAL.		Oil, including gasoline (barrels).	Gas (1,000 cubic feet).
	Anthracite (tons, 2,240 lbs.).	Bituminous (tons, 2,000 lbs.).		
United States.....	490,587	896,589	31,869	143,953
Connecticut.....	20	56,849	1,570	1,609
Illinois.....		10,053	7	364
Kentucky.....		7,566		
Maryland.....	30	2,330	1	
Massachusetts.....	57,855	234,654	1,174	9,583
New Jersey.....	252,024	85,683	2,390	54,078
New York.....	46,883	60,306	690	21,026
North Carolina.....		3,620		
Ohio.....		26,032		11,000
Pennsylvania.....	77,869	142,182	252	23,097
Rhode Island.....	55,906	198,251	18,790	8,832
All other states.....		69,063	6,995	14,364

DETAIL STATE TABLES.

Table 11 shows for 1914, 1909, and 1904, by states, the number of establishments, average number of wage earners, primary horsepower, wages, cost of materials,

and value of products as reported for the dyeing and finishing of textiles. Table 12 presents for 1914, by states, the more detailed statistics of the industry.

TABLE 11.—COMPARATIVE SUMMARY, BY STATES, FOR 1914, 1909, AND 1904.

STATE.	Cen- sus year.	Num- ber of estab- lish- ments.	Wage earners (aver- age num- ber).	Primary horse- power.	Expressed in thousands.		
					Wages.	Cost. of ma- terials.	Value of prod- ucts.
United States.....	1914	507	48,467	130,172	\$24,872	\$56,705	\$109,292
	1909	426	44,046	107,746	21,227	35,261	83,556
	1904	360	35,565	84,868	15,469	19,621	50,850
Connecticut.....	1914	12	1,764	7,738	923	1,455	3,503
	1909	10	1,719	5,851	872	1,480	3,562
	1904	10	1,406	4,883	640	927	2,215
Illinois.....	1914	8	268	476	149	208	504
	1909	12	172	386	92	105	363
	1904	8	123	532	45	30	161
Maryland.....	1914	4	87	177	41	97	205
	1909	3	79	93	32	61	127
Massachusetts.....	1914	57	11,437	30,932	5,843	10,989	22,455
	1909	48	9,079	24,513	4,430	10,469	21,893
	1904	46	7,508	19,242	3,262	4,179	11,049
New Jersey.....	1914	98	11,683	22,876	5,926	13,706	27,987
	1909	67	10,129	19,989	5,016	6,353	15,796
	1904	57	7,597	12,835	3,466	5,052	11,980
New York.....	1914	99	5,514	13,497	\$2,925	\$10,452	\$16,303
	1909	81	5,252	8,750	2,321	4,139	9,673
	1904	55	3,586	7,128	1,578	1,339	4,362
North Carolina.....	1914	4	194	273	61	106	203
	1909	4	330	556	86	113	307
	1904	4	301	705	83	86	251
Ohio.....	1914	5	382	4,100	191	444	706
	1909	6	184	4,578	94	243	423
Pennsylvania.....	1914	150	6,389	14,685	3,469	8,456	15,452
	1909	135	6,086	13,560	2,988	5,331	12,056
	1904	123	4,585	9,712	2,076	2,701	6,786
Rhode Island.....	1914	47	7,928	25,539	3,966	8,764	16,301
	1909	45	7,792	21,179	3,616	5,319	13,956
	1904	37	7,562	18,705	3,182	3,639	9,981
All other states.....	1914	23	2,821	9,879	1,378	2,028	5,673
	1909	15	3,224	8,291	1,680	1,648	5,397
	1904	20	2,897	11,126	1,137	1,668	4,065

TABLE 12.—DETAIL STATISTICS FOR THE DYEING AND FINISHING OF TEXTILES, BY STATES: 1914.

STATE.	Number of establishments.	PERSONS ENGAGED IN THE INDUSTRY.								WAGE EARNERS DEC. 15, OR NEAREST REPRESENTATIVE DAY.					EXPENSES.		
		Total.	Proprietors and firm members.	Salaried officers, superintendents, and managers.	Clerks, etc.		Wage earners.			Total.	16 and over.		Under 16.		Capital.	Salaries and wages.	
					Male.	Fe-male.	Average number.	Number, 15th day of—			Male.	Fe-male.	Male.	Fe-male.		Officials.	Clerks, etc.
								Maximum month.	Minimum month.								
United States....	507	53,273	353	1,142	2,444	867	48,467	Mh 51,070	No 45,253	46,776	37,853	8,175	511	237	\$139,193,871	\$3,452,089	\$3,019,316
Connecticut.....	12	1,857	2	28	45	18	1,764	Oc 1,819	Se 1,725	1,729	1,507	177	26	19	4,837,005	81,316	86,047
Illinois.....	8	300	5	8	10	9	268	Mh 302	Jy 222	291	182	104	1	4	579,231	18,544	13,104
Kentucky.....	3	127	2	5	3	1	116	Au ³ 118	Ap ³ 114	119	101	18	.....	.....	213,782	14,132	3,647
Maryland.....	4	97	2	5	3	.....	87	Fe 95	Jy 71	90	71	18	.....	1	140,909	12,600	950
Massachusetts.....	57	12,226	14	167	436	172	11,437	Mh 12,358	No 10,079	11,440	9,227	1,998	162	53	39,014,407	733,135	544,143
New Jersey.....	98	12,702	48	281	567	123	11,683	Mh 12,261	De 10,746	10,733	8,993	1,671	39	30	32,939,872	840,360	635,754
New York.....	99	6,390	89	194	383	210	5,514	Ap 6,066	De 4,954	4,987	3,486	1,477	17	7	13,585,712	514,373	508,077
North Carolina.....	4	204	2	6	1	1	194	Ma 220	Se 175	183	116	64	2	1	179,158	7,900	1,500
Ohio.....	5	404	1	8	11	2	382	Jy 450	Se 259	428	387	29	12	.....	1,451,379	22,538	13,047
Pennsylvania.....	150	7,251	156	244	351	111	6,389	Mh 6,749	No 6,160	6,222	5,352	727	105	38	17,281,294	574,175	401,428
Rhode Island.....	47	8,660	21	140	439	132	7,928	Fe 8,328	De 7,554	7,761	6,175	1,409	106	71	22,749,522	450,787	536,132
All other states ⁴	20	3,055	11	56	195	88	2,705	.....	.....	2,793	2,256	483	41	13	6,221,600	182,229	275,487

STATE.	EXPENSES—continued.						Value of products.	Value added by manufacture.	POWER.					
	Salaries and wages—Con.	For contract work.	Rent and taxes.		For materials.				Primary horsepower.					Electric horsepower generated in establishments reporting.
	Wage earners.		Rent of factory.	Taxes, including internal-revenue and corporation income.	Principal materials.	Fuel and rent of power.			Total.	Steam engines. ¹	Internal-combustion engines. ²	Water wheels and motors. ¹	Electric (rented).	
United States....	\$24,872,318	\$222,370	\$490,135	\$922,660	\$51,933,138	\$4,771,997	\$109,291,536	\$52,586,401	130,172	111,506	1,535	9,969	7,162	43,859
Connecticut.....	923,404	5,117	3,150	45,066	1,235,831	219,155	3,503,139	2,048,153	7,738	4,621	330	2,550	237	1,871
Illinois.....	149,237	1,057	900	4,642	178,345	29,449	504,199	296,405	476	379	.....	.....	97	42
Kentucky.....	58,350	.....	840	1,909	95,973	13,015	247,326	138,338	293	291	.....	.....	2	53
Maryland.....	40,897	3,600	.....	1,043	91,559	5,116	204,710	108,035	177	137	.....	.....	40	.....
Massachusetts.....	5,842,976	19,651	44,371	373,838	9,717,667	1,271,336	22,455,086	11,466,083	30,932	26,300	140	1,860	2,632	14,456
New Jersey.....	5,926,467	1,931	62,583	153,794	12,740,161	965,839	27,986,512	14,280,512	22,876	21,968	208	65	635	8,385
New York.....	2,925,211	109,637	146,783	80,221	10,039,132	412,846	16,302,576	5,850,598	13,497	9,924	522	1,897	1,154	3,908
North Carolina.....	60,619	211	1,320	1,162	90,832	14,678	203,379	97,869	273	225	40	.....	8	.....
Ohio.....	190,927	.....	3,250	6,832	392,477	51,108	705,618	262,033	4,100	4,080	.....	.....	20	510
Pennsylvania.....	3,469,473	77,772	124,123	60,729	7,810,373	645,315	15,451,576	6,995,888	14,685	14,013	270	25	377	2,283
Rhode Island.....	3,965,884	3,050	65,538	145,168	7,839,174	925,129	16,300,783	7,536,480	25,539	22,554	25	1,841	1,119	9,933
All other states ⁴	1,318,873	344	37,227	48,256	1,701,614	219,011	5,426,632	3,506,007	9,586	7,014	.....	1,731	841	2,418

¹ Owned power only.² Includes rented power, other than electric.³ Same number reported for one or more other months.⁴ All other states embrace: Alabama, 1 establishment; California, 2; Delaware, 2; Indiana, 2; Iowa, 1; Maine, 1; Minnesota, 1; Missouri, 2; Oregon, 1; South Carolina, 2; Tennessee, 2; West Virginia, 1; and Wisconsin, 2.

HAIRCLOTH.

Haircloth was formerly used most extensively in upholstering, and its manufacture was included under "upholstering materials." Large quantities of it are now used in the manufacture of clothing, and for this reason it was given a separate classification in 1909. The textile is usually made by using a warp of cotton yarn and a weft of horsehair; small quantities of worsted yarn and of hog and cattle hair are also reported as materials.

The haircloth industry is confined to three states—Pennsylvania, reporting 15 establishments in 1914, New York 3, and Rhode Island 1; as compared with 9, 2, and 3 plants in these respective states in 1909.

The following table presents statistics for this industry for 1914 and 1909.

Table 1	HAIRCLOTH.		
	Number or amount.		Per cent of increase, ¹ 1909–1914
	1914	1909	
Number of establishments.....	19	14	35.7
Persons engaged.....	674	621	8.5
Proprietors and firm members.....	22	11	100.0
Salaried employees.....	57	72	–20.8
Wage earners (average number).....	595	538	10.6
Primary horsepower.....	1,723	995	73.2
Capital.....	\$2,945,244	\$2,280,717	29.1
Salaries and wages.....	388,907	323,808	20.1
Salaries.....	98,627	71,529	37.9
Wages.....	290,280	252,279	15.1
Paid for contract work.....	2,913	3,500	–16.8
Rent and taxes (including internal revenue).....	35,161	32,996	6.6
Cost of materials.....	1,654,006	1,613,581	2.5
Value of products.....	2,395,486	2,230,033	7.4
Value added by manufacture (value of products less cost of materials).....	741,480	616,452	20.3

¹ A minus sign (–) denotes decrease.

MATS AND MATTING.

This industry includes establishments engaged in the manufacture of doormats and floor mattings, art squares, rugs and carpets, the principal materials being wire grass and coir yarn (coir being the fiber prepared from the outer husk of the coconut). The products are woven with cotton warp, or plaited, and differ from the rugs and carpets made in establishments engaged primarily in the manufacture of

"carpets and rugs, other than rag" or of "jute goods" in that their chief material is not wool or cotton or jute. Of the 12 establishments reporting in 1914, 4 are in Wisconsin, 3 in New York, 2 in Pennsylvania, and 1 each in New Jersey, Michigan, and Minnesota. Seven were controlled by corporations, 3 by individuals, and 2 by firms. The following table presents statistics for the industry for 1914, 1909, 1904, and 1899.

Table 1

	MATS AND MATTING.						
	Number or amount.				Per cent of increase. ¹		
	1914	1909	1904	1899	1909-1914	1904-1909	1899-1904
Number of establishments.....	12	12	12	9			
Persons engaged.....	977	1,040	696	1,248	-6.2	49.4	-44.2
Proprietors and firm members.....	10	18	13	9	-50.0	38.4	44.4
Salaried employees.....	98	85	58	42	15.3	46.6	38.1
Wage earners (average number).....	869	937	625	1,197	-7.3	49.9	-47.8
Primary horsepower.....	1,643	1,433	1,524	1,733	14.7	-6.0	-12.1
Capital.....	\$5,055,114	\$4,051,467	\$838,607	\$994,155	24.8	383.1	-15.6
Salaries and wages.....	552,070	479,953	316,139	268,342	15.0	51.8	17.8
Salaries.....	96,823	94,519	67,035	31,060	2.4	41.0	115.8
Wages.....	455,247	385,434	249,104	237,282	18.1	54.7	5.0
Paid for contract work.....	21,230	50,127	34,241	100	-57.6	46.4	
Rent and taxes (including internal revenue).....	43,465	18,172	2 11,989	2 8,100	139.2		
Cost of materials.....	1,170,214	1,066,566	574,168	516,137	9.7	85.8	11.2
Value of products.....	2,235,867	2,431,615	1,242,996	1,165,330	-8.1	95.6	6.7
Value added by manufacture (value of products less cost of materials).....	1,065,653	1,365,049	668,828	649,193	-21.9	104.1	3.0

¹A minus sign (-) denotes decrease.

² Not including internal revenue.

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